

# MILLS OF CO LAOIS: AN INDUSTRIAL HERITAGE SURVEY



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*for*

**Laois County Council**

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**Cover** *Clockwise from top left:* Castletown Mill, Portarlinton Mill, Donaghmore Maltings, Newtown Mill.

# CONTENTS

<b>PREFACE</b>	
<b>SUMMARY</b>	
<b>1. METHODOLOGY</b>	<b>1</b>
1.1 Project scope	1
1.2 Mill identification	1
1.3 Site numbering	2
1.4 Paper survey	3
1.5 Field survey	4
1.6 Analysis and evaluation	4
1.7 Computer database	4
1.8 Sample representation	5
<b>2. GRAIN MILLS</b>	<b>6</b>
2.1 Power sources	6
2.2 Corn and flour mills	11
2.3 Steam-powered mills	14
2.4 Miscellaneous animal feed mills.	15
2.5 Demise	16
<b>3. BREWING, DISTILLING AND MALTING</b>	<b>18</b>
3.1 Breweries	18
3.2 Distilleries	21
3.3 Maltings and malt houses	21
<b>4. TEXTILE MILLS</b>	<b>24</b>
4.1 Woollen mills	24
4.2 Flax mills	30
4.3 Cotton mills	31
4.4 Carpet factories	32
<b>5. TIMBER MILLS</b>	<b>33</b>
5.1 Saw mills	33
5.2 Bark mills	34

<b>6. MISCELLANEOUS MILLS</b>	<b>35</b>
6.1 Threshing mills	35
6.2 Oilseed rape mills	36
6.3 Bone mills	36
6.4 Sugar factory	36
6.5 Stone sawmill	37
6.6 Cutlery mill	37
<b>7. MILLS OF HERITAGE SIGNIFICANCE</b>	<b>38</b>
7.1 Evaluation criteria	38
7.2 Rating	38
7.3 Statutory protection	39
7.4 Recommendations for statutory protection	40
<b>8. ISSUES</b>	<b>42</b>
8.1 The use and adaptive reuse of mill buildings	42
8.2 Repair and maintenance	44
8.3 Preservation of machinery	45
8.4 Conservation of documents	46
8.5 Planning issues	46
8.6 Funding mill conservation	50
8.7 Raising awareness of the milling heritage	51
8.8 Recommendations	51
<b>9. CONCLUSIONS</b>	<b>54</b>
<b>APPENDICES:</b>	
1. Mill recording form	55
2. Heritage evaluations	56

## **PART 2: SITE INVENTORY**

Indexes by:

- 1 Name, Townland, Town, IAR site no
  - 2 Townland, Type, Function, Industrial category, IAR site no
  - 3 Town, Type, Function, Industrial category, IAR site no
  - 4 Grid – easting, – northing, Type, Function, Industrial category, IAR site no
  - 5 Type, Function, Industrial category, Townland, IAR site no
  - 6 Function, Type, Industrial category, Townland, IAR site no
  - 7 Industrial category, Function, Type, Townland, IAR site no
- Site reports, listed by LAIAR number

## **PREFACE**

This report, commissioned by Laois County Council, presents the results of a survey undertaken during 2005 of some 150 mill-related sites throughout the county. It was funded by the Heritage Council and Laois County Council as an action of the Laois Heritage Plan 2002–2006. This plan was devised by the Laois Heritage Forum, the membership of which comprises representatives of various heritage groups throughout the county. The Forum's objective is to promote an awareness, understanding and appreciation of the county's built, natural and cultural heritage through the implementation of specific actions to conserve the county's unique character.

This particular project was instigated by Laois CC and Laois Heritage Forum under objective 4.4 of the Heritage Plan – the recording of industries in Co Laois. It follows on from a previous project carried out by the author which entailed the creation of a paper survey of all industrial heritage sites in the county.

The objective of the project was two-fold: (1) to make a comprehensive record of all identified mills, and (2) to highlight those of special heritage significance which merit statutory protection. In realising this objective, the focus has been on fieldwork rather than historical research. It does not, therefore, purport to be an exhaustive historical analysis of every mill in the county. Rather, the value of this report lies not only in identifying sites of special merit, but also in providing a broad overview of the county's mills, in identifying issues pertinent to their conservation and in acting as a starting point for further historical analysis and fieldwork by interested researchers.

The project was directed by a steering committee comprising Catherine Casey (Heritage Officer, Laois CC), Mick Dowling, Teddy Fennelly, Mary Lawlor and John Prior. I am extremely grateful for their invaluable advice and contributions.

I would also like to thank all those mill owners who generously granted access to their sites and answered my many questions. My thanks also go to Mary Fitzpatrick (Laois CC Archivist), Gerry Maher and Patricia Lynch (Laois County Library), and to Paul Ferguson (Map Curator at Trinity College, Dublin) for their assistance.

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# SUMMARY

## 1. Introduction

- 1.1 This report was commissioned by Laois Heritage Forum and Laois County Council with the aim of identifying and surveying all mills in Co Laois. Those mills of special heritage significance were to be highlighted for possible statutory protection. All the data were also to be recorded on a Microsoft *Access* database and digitally mapped using *MapInfo*.
- 1.2 For the purposes of this study, a mill is defined as a building where raw materials were mechanically converted into usable forms or finished goods.

## 2. Sources

- 2.1 A range of documentary sources was used to identify mill sites: Ordnance Survey maps, valuation books, published references, Record of Monuments & Places, National Inventory of Architectural Heritage, and Record of Protected Structures. Most of this information was already held on the Laois Industrial Archaeology Record (LAIAR).
- 2.2 As a result of this paper survey, 212 buildings and structures of molinological interest were identified at 155 locations throughout Co Laois.
- 2.3 The majority of sites thus highlighted were found to be water-powered corn and flour mills of 19<sup>th</sup> century date. A substantial number of mills with other functions, sources of motive power and date were also recorded. Related sites such as breweries, distilleries and maltings were also included in the study.
- 2.4 Over the summer of 2005, the author visited all the sites highlighted in the paper survey. Using a standardised form, descriptions were made and photographs taken. The data thus collected was transferred to the LAIAR database and also digitally mapped.

## 3. Mill types

- 3.1 A total 97 buildings and structures related to grain milling were identified at 88 sites. Traditional water-powered corn mills predominate, but a substantial number of large flour were also found. Unfortunately, many of these mills have long gone or now survive only as overgrown shells. Plant and machinery were found in relatively few instances and were complete in only two cases.
- 3.2 Fourteen breweries and three distilleries operated in Co Laois during the late 1700s and early 1800s. All are located in urban areas, particularly Mountmellick. Two breweries but none of the distilleries survived into the later 1800s.
- 3.3 In contrast to brewing and distilling, malting flourished in Co Laois from the mid 1800s until well into the 1900s. Eight maltings-related sites have been identified. As with brewing, Mountmellick was to the fore in the 1800s, but it was Portlaoise and Stradbally which were to become its focus during the 1900s.
- 3.4 Twenty-eight textile related sites were identified. Woollen mills predominate, in the form of carding mills, spinning mills, weaving factories and fulling mills. These were generally of early and mid 19<sup>th</sup> century date and were water powered. A small number of late 18<sup>th</sup> century cotton mills and mid 19<sup>th</sup> century flax scutching mills were also identified.
- 3.5 Twenty-six saw mills were recorded. Many of these were located in the larger demesnes and most date from the late 1800s and early 1900s when commercial timber growing began.
- 3.6 Fifteen other mill types were also recorded – threshing mills, oilseed rape mills, bone mills, a sugar factory, stone cutting mill and cutlery mill.

## **4. Heritage assessment and protection**

- 4.1 The criteria devised by the National Inventory of Architectural Heritage (NIAH) were used to assess the heritage significance of the mill-related structures and buildings identified in this survey; these relate to architectural, historical, archaeological, and technical merit. Each site was also rated according to its local, regional, national and international importance.
- 4.2 Seventeen sites were evaluated as being of local significance, 31 of regional interest and four of national importance. None was of international significance.
- 4.3 Of the regionally significant sites, 17 are already protected – four in the Record of Monuments & Places (RMP) and 13 in the Record of Protected Structures (RPS). Of the 14 unprotected, two are recommended for inclusion in the RMP and 12 for the RPS.
- 4.4 Of the nationally significant sites, three are already in the RPS and one is recommended for inclusion.

## **5. Issues**

- 5.1 Of the 212 mill-related buildings and structures identified in this survey, nothing or only traces survived at well over half this total. Less than one-third were substantially or wholly complete.
- 5.2 Only 33 mill-related components were still in use at the time of this survey. Of these, 10 still functioned as originally intended, 10 were in use as stores, and 13 had been adaptively reused. Adaptive reuse is, however, particularly problematic with old mill buildings and the vast majority have deteriorated through lack of use.
- 5.3 Whilst the RMP and RPS provide mechanisms for the statutory protection of significant sites, they do not guarantee their survival. The amount of grant aid currently on offer from local and central government for the conservation of mills is wholly inadequate. The importance of our milling heritage must be conveyed more widely and given added value beyond its purely industrial aspects if it is to be more fully appreciated and cherished.
- 5.4 Just five sites retain a complete assemblage of plant, power transmission gearing and appliances. A further three contain substantial remains of at least one of these technical components. The low incidence of surviving machinery reflects the difficulty of retaining it in defunct sites. Detailed recording of endangered assemblages is proposed.
- 5.5 Documents relating to milling and related activities merit preservation. These are sometimes the only tangible reminder of a site long gone and provide clues to its appearance and development.
- 5.6 Where applications are made for the redevelopment of protected mills, the planners should ensure that proper records (descriptions, photographs and measured drawings) are made before any work takes place. The impact of any redevelopment on features of special heritage significance should also be assessed. Adequate provision should also be made for the conservation of significant items of machinery where these survive.
- 5.7 Financial assistance towards the conservation of significant mill-related sites is wholly inadequate for the task at hand. However, what is currently on offer has generally not been taken up by owners of mill sites.
- 5.8 The profile of the county's milling heritage needs to be raised so that it is better understood and appreciated. Only then will there be the will to conserve it.
- 5.9 The report concludes with specific recommendations for actions relating to conservation plans, recording machinery and documents, conditions on planning applications relating to significant sites, and raising public awareness.





As part of the compilation of LAIAR, Laois County Library was systematically trawled for references to mills in local history publications, journals and newspaper articles.

Mill valuation books and Griffith valuation books, compiled in the 1840s and '50s respectively, also proved useful in identifying mill sites not obvious on the maps (particularly uncaptioned ones), and in providing additional information on their owners, plant and machinery.<sup>1</sup>

Existing databases held by other organisations also proved useful, notably the Dúchas Record of Monuments & Places, National Inventory of Architectural Heritage, and Record of Protected Structures maintained by Laois County Council.

### 1.3 Site numbering

Using the above sources and selection criteria, a total of 155 sites were ultimately identified as being relevant to this study (fig 1.2). To differentiate them, each was given a unique number based on three identifiers: (1) county, (2) OS six-inch map sheet wherein the site is depicted, and (3) sequential number within that map sheet, e.g. LAIAR-019-001 is site 1 on sheet 19 of the Co Laois six-inch map series.<sup>2</sup>

Most sites comprise a single building erected for a specific purpose, e.g. a saw mill. Some sites contain several buildings, e.g. a grain mill and a saw mill. For the purposes of this analysis, each separate physical entity which could be distinguished has been regarded as a *site component* and

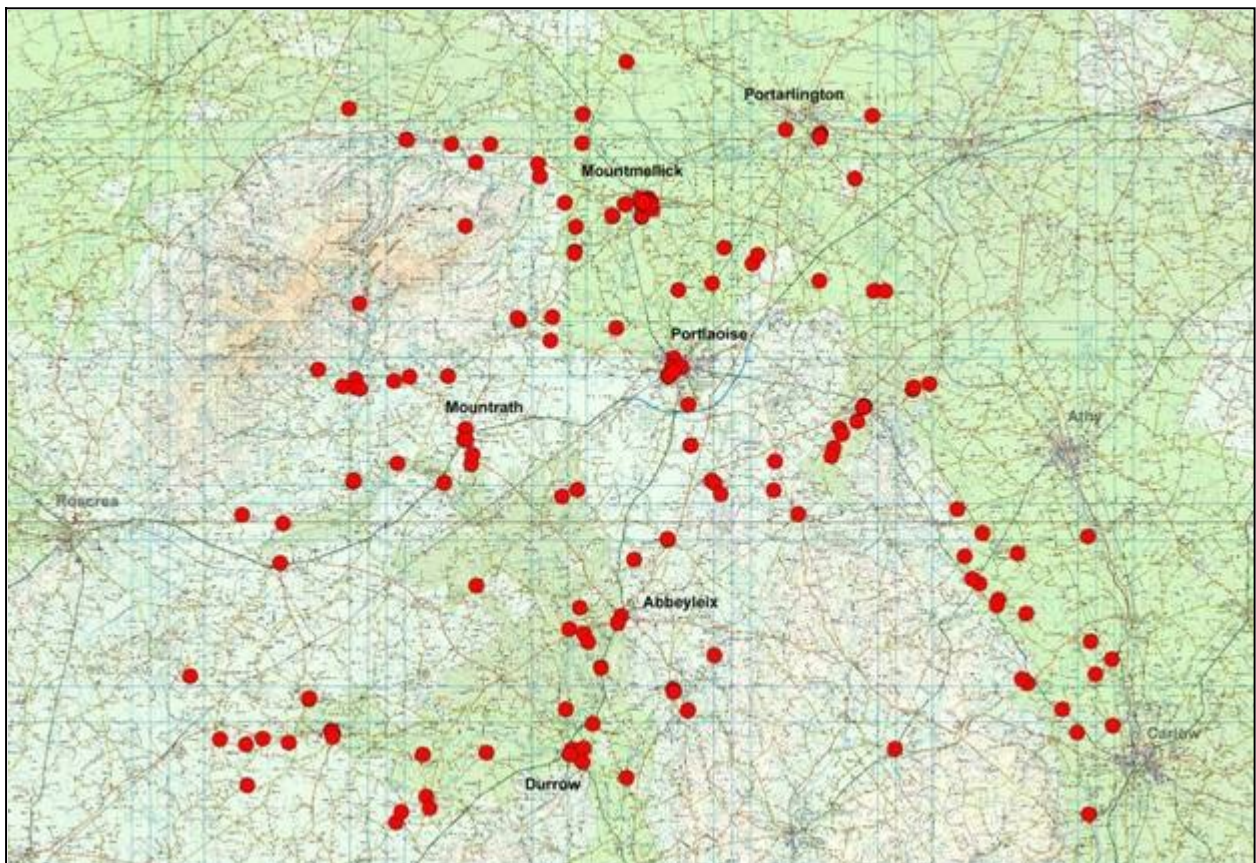


Fig 1.2. Distribution of mill sites in Co Laois.

<sup>1</sup> Some of the data contained in the Mill valuation books was published by William Hogg in *The Millers & the Mills of Ireland of about 1850* (Dublin, 2000). For the purposes of this study, the original book was consulted in the National Archive, Dublin as it contains additional unpublished data.

<sup>2</sup> Where mills are referenced in this report, the LAIAR- prefix has been omitted for brevity.

accorded its own sub-number, e.g. 019-001.1 and 019-001.2 are two components of site 019-001. Where a component has been superseded by another, the latter is given the next component number in that site's sequence.

A particular site component may sometimes contain several sub-components, e.g. a corn mill and kiln within the one building. Moreover, some components or sub-components may also change their function over time, e.g. a 19<sup>th</sup> century corn mill may have been converted into a hydro-electric power station in the 20<sup>th</sup> century (fig 1.3). These various sub-components have also been distinguished. Using this classification system, 212 components and 279 sub-components of molinological interest were distinguished within the 155 sites.

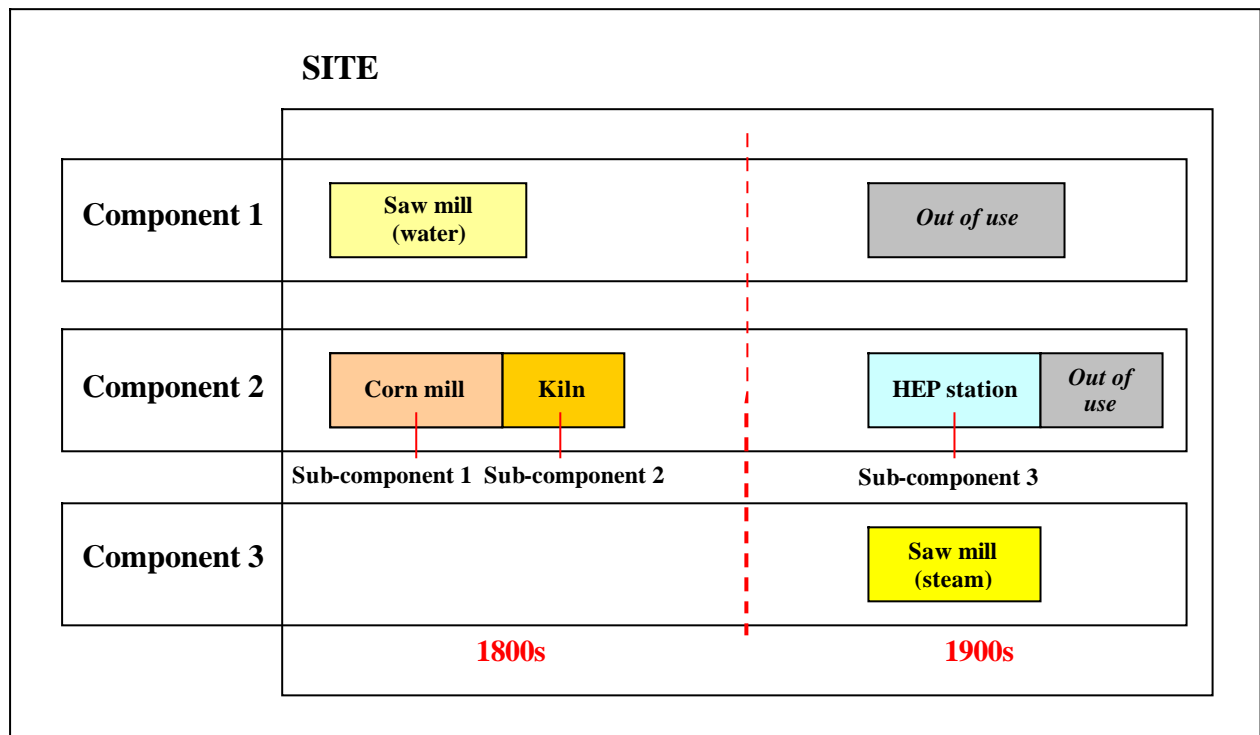


Fig 1.3 Differentiation of site components and sub-components within a site.

## 1.4 Paper survey

During the OS map research phase of this project, a mill's presence or absence on each edition of its map sheet was noted, together with any caption if given (e.g. Manor Mills). Its location by townland, six-inch map and *Discovery* map sheet was also noted. Its specific function was recorded where this was cited in the map caption, e.g. corn mill.

The location of each mill was also marked up on a photocopy of its respective 1906-07 OS six-inch map. Each site component was then digitally mapped using *MapInfo* to determine its National Grid co-ordinate to the nearest meter (i.e. 12 figures).

The data gleaned from the documentary sources discovered during this phase of research could, in most cases, be immediately cross-referenced to LAIAR numbers already generated during the OS map examinations. Where a previously unrecorded site was encountered in the documents, it was accorded a new LAIAR number (and the relevant OS maps re-examined for its depiction).

Links to other sites within the LAIAR database and to relevant records in other databases were also noted, as was the site's statutory protection status.

All published material was also photocopied and placed in hard-copy files indexed by Site Number. As this photocopied material has not been electronically scanned, it forms an essential element of LAIAR.

## 1.5 Field survey

Over the summer of 2005, the author visited all the mill sites identified in the paper survey. Using a standardised form, various attributes were recorded at each site, including component type(s), survival, condition, and present use (appendix 1). Where there were upstanding remains, detailed descriptions were also made using the format adopted by the National Inventory of Architectural Survey – size, roofs, walls, openings, interiors. Where more than one phase of building was observed, this was also noted, as were any unusual architectural features. In addition, the associated waterworks (weirs, head and tail races), plant (waterwheels, engines and power transmission system), and machinery were also noted where these survived.

At least one photograph was taken using a Canon EOS 500 camera and 20-35mm lens. Fuji Colour 400ASA colour film was used to produce 15cm x 10cm prints. During the processing of the film, the negatives were also scanned and digitised. These images were then edited using Adobe *Photoshop Elements* and saved as jpeg files, each identified according to the photograph sequence for that particular mill site; e.g. 023-043\_02 is image 2 for site 023-043.

## 1.6 Analysis and evaluation

On the basis of the paper records and field survey, it was possible to ascertain, in broad terms, what a particular site was used for, when it was came into existence, and how it developed.

Using this site-specific data and comparing it with similar sites elsewhere in the county, it was then possible to evaluate the heritage significance of each particular site in terms of its contribution to our understanding of the milling history of Co Laois. Recommendations were then put forward for the statutory protection of those mills of special heritage significance.

## 1.7 Database

All the recorded paper and field data were transferred to the LAIAR database. Each site record within the database contains a summary of the key features of that particular site, and details of its location, history and present state, together with an evaluation of its heritage significance, photographs and references.

The location of every identified mill component has also been digitally mapped using *MapInfo*. Each feature is represented by a small circle and flagged by its LAIAR site number. By clicking on a particular circle, summary details of that component can be viewed (site and component numbers, name, type, function, industrial context and level of statutory protection). Sites matching specific criteria (e.g. all saw mills) can also be selected using the *MapInfo* query facility and the resultant distribution map viewed at various map scales.

As not everyone will have access to LAIAR, key data for every mill site are also reproduced in hard-copy form in Part 2 of this report. These site print-outs are arranged by LAIAR number and include information on the site's name, location, history, description of its various components, evaluation, references and photographs. Indexes arranged by name, subject and location are provided to facilitate the identification of sites of specific interest to the researcher.

These site-specific reports are also reproduced in PDF format on the CD accompanying this report. Also included on this CD are the texts of parts 1 and 2 of this report (also in PDF format), and also a *MapInfo* table of all mill sites. Photographs, in JPEG format, are also included, along with captions.

## 1.8 Sample representation

It is inevitable that some mills will have been omitted from this survey. Because most of the sources consulted date from the 1830s or later, it is inevitable that mills which had stopped before then will have been missed.

Earlier documents notably William Petty's 1685 map, Sir Charles Coote's 1801 *Statistical Survey of Queen's County*, Daniel Cahill's 1805 Grand Jury map of Queen's County, and the various drainage maps prepared by the Bog Commissioners for Ireland in the 1810s, would repay further research in this respect.

Moreover, industrial sites which came into and out of use between OS map surveys may not have been picked up, nor those which were established after the 1906-07 survey.

These limitations notwithstanding, the vast majority of mills in Co Laois operated during the 18<sup>th</sup> and 19<sup>th</sup> centuries. As most were water powered and operated over many decades, virtually all of them will have been mapped by the Ordnance Survey or otherwise documented. They will therefore have been identified in this study and it is reasonable to assume that the mills analysed here are a representative sample of those which functioned in Co Laois from the late 1700s onwards, in terms of their type, function and distribution.

This report does not purport to be *the* definitive account of mills in Co Laois. Rather, it should be regarded as a starting point for future research into particular types of mill and specific sites.



## 2. GRAIN MILLS

Grain mills, for the grinding of cereals into meal and flour, are the earliest and most prevalent type of mill in Ireland. Although mills first appeared in Ireland during the Early Christian period (500-1000AD), the vast majority originated in the 1700s and 1800s when cereal growing (particularly oats and wheat) was at a peak throughout the country. A total of 89 grain mills were identified in Co Laois, at 88 sites (one site has two mills; fig 2.1)

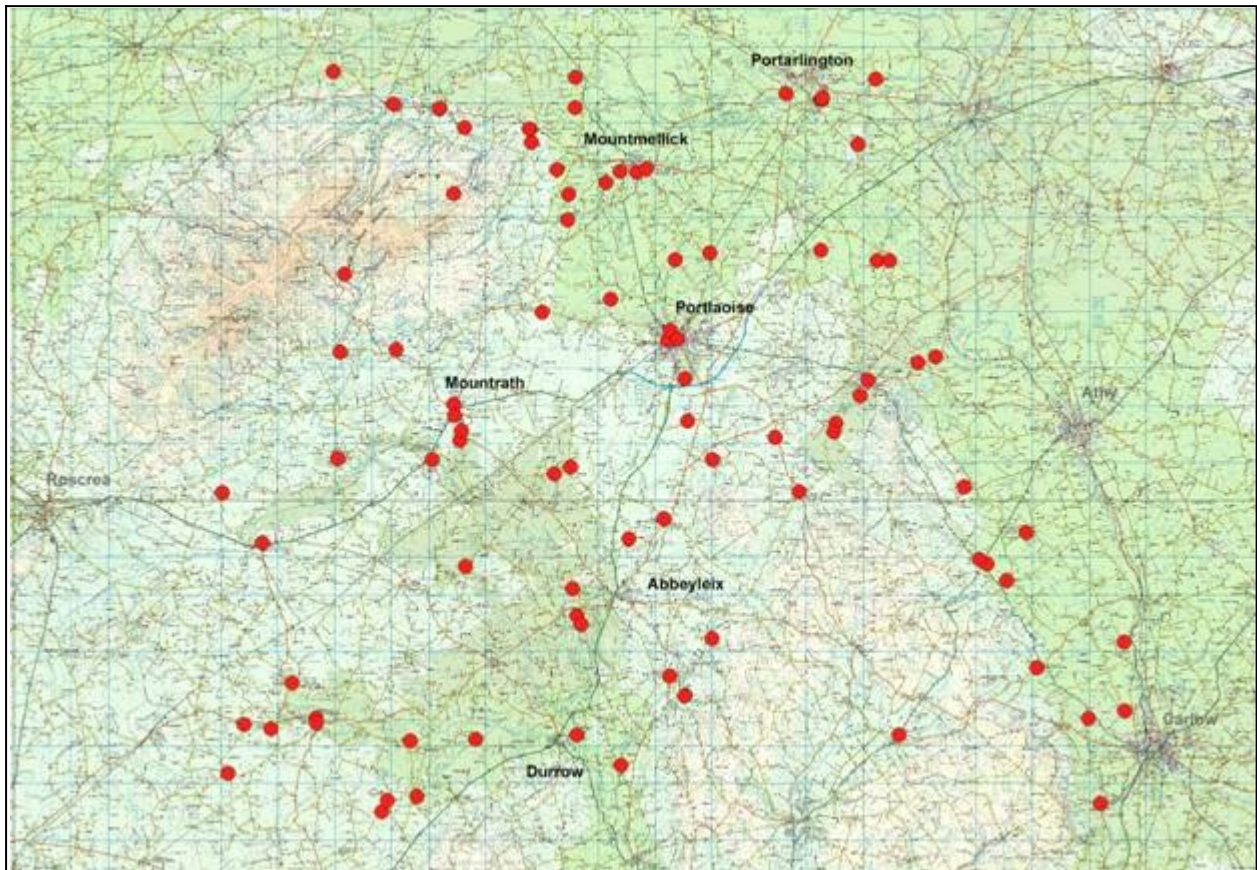


Fig 2.1 Distribution of grain milling sites in Co Laois.

### 2.1 Power sources

#### Water power

Of the 89 identified mills, 78 were powered by water (88%). Such a high percentage is not surprising given that most were built before reliable engines became readily available. Compared with wind power, water is reasonably reliable at all times of the year, and is also storable (in millponds) and relatively easy to control (by means of sluice gates). Its only drawback is its susceptibility to freeze in winter, and backwatering. The latter occurs at times of high water when the river causes the tailrace level to rise, thus impeding the rotation of the waterwheel. The compilers of the mill valuation books in the 1840s noted that Lea Mill, on the Barrow (005-035), and English Mill, on a tributary of the Erkina River (027-019), were both prone to backwatering.

The distribution of the county's watermills shows that all but the county's smallest watercourses were harnessed (fig 2.2). They are fairly evenly distributed along the foothills of Slieve Bloom and the Castlecomer Plateau, and on the lower ground in the catchments of the Nore and Barrow Rivers. There are evident concentrations on the Owenass River around Mountmellick, on the Triogue at Portlaoise, at Mountrath, and along the Stradbally River. Interestingly, there are almost no grain mills on the Nore and Barrow, undoubtedly because of their lack of natural fall and consequential expense of constructing substantial weirs and long races.



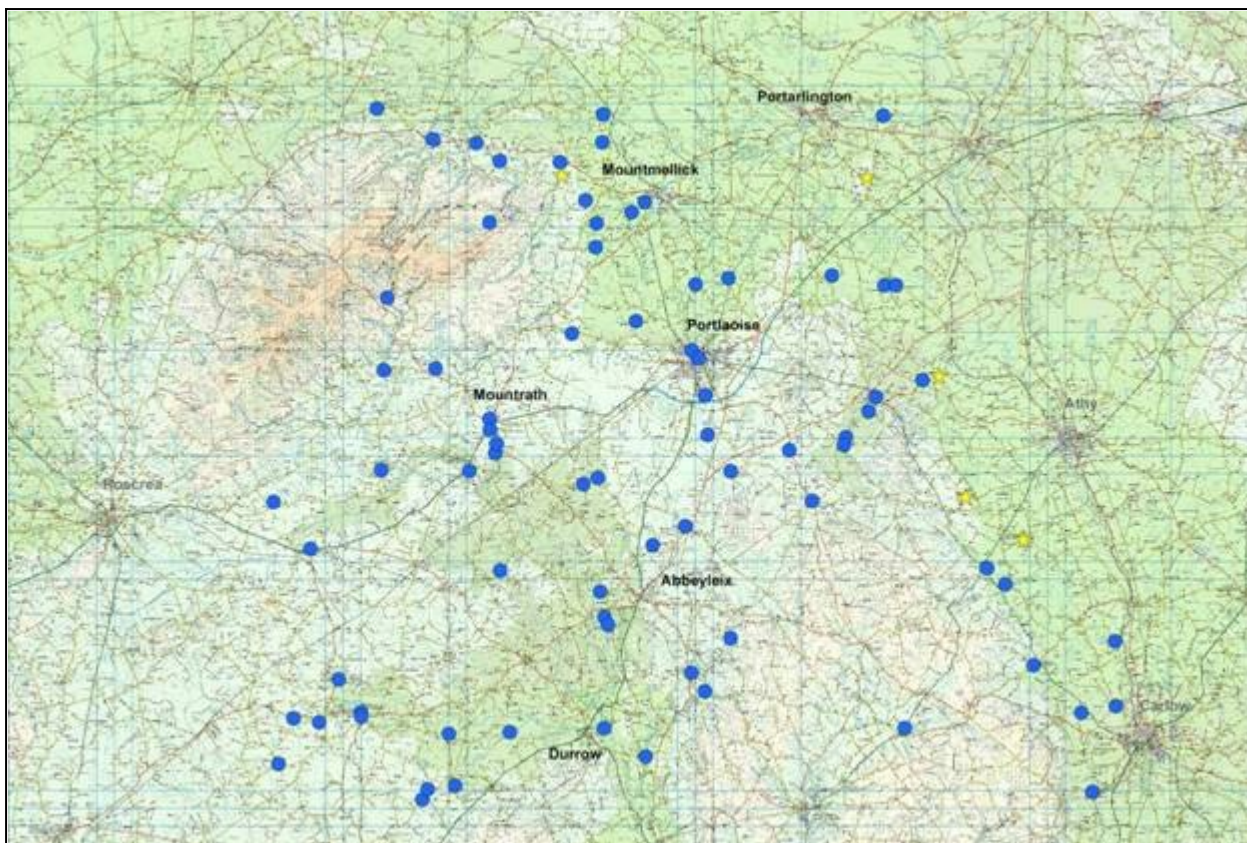


Fig 2.2 Distribution of water- and wind-powered grain mills (shown in blue and yellow respectively).

### *Horizontal waterwheels*

The earliest water-powered mills are called horizontal mills because their waterwheels rotate in a horizontal plane about a vertical axis. The impact of a high-pressure water jet caused the wheel to rotate and this motion was transmitted up the shaft to the millstone mounted at its top end.

The remains of three such mills are recorded in Co Laois, all of them accidental discoveries made during land reclamation works – at Morett (009-026), Ardlea (017-056) and Ballygormill South (018-020). What is possibly a fourth such mill was discovered at Crannagh (016-025). Four place names also recall the presence of mills – Mill Quarter near Clonaslee, and the townlands of Oldmill (019-004), Milltown (025-003) and Mill-Land (014-017).

Despite their antiquity (being the earliest type of mill recorded in Ireland) and limited grinding capabilities, such mills are known to have been at work in parts of Ireland into the 19<sup>th</sup> century. However, none is specifically mentioned in the 1840s mill valuation book for Co Laois, indicating that they are older, although how old is uncertain. None of these mills survive in situ, but there is every possibility of new discoveries.

### *Vertical waterwheels*

By far the commonest type of waterwheel is the vertical wheel; this rotates in a vertical plane about a horizontal axis. They are more powerful and more efficient than horizontal wheels and can also drive several sets of millstones simultaneously.

There are two types of wheel construction – the paddle wheel and bucket wheel. With the former, the water impinges on paddles affixed to the circumference of the wheel. The greater the speed of the water, the faster the wheel rotates and the greater the power harnessed. However, the wheel descriptions given in the mill valuation books suggest that such wheels were not widely used. Cappanary Mill (003-007) and Mountrath Mill (017-005) both had paddle wheels and a third still survives at Newtown Mill (fig 2.3).



Fig 2.3 Restored paddle wheel at Newtown Mill (029-020).

More common was the bucket wheel. Here the water is held in buckets around the rim of the wheel (fig.2.4). Its weight (rather than its speed) causes the wheel to rotate. The amount of power abstracted from the water is determined by the volume of water flowing through the wheel and the height through which it falls (the head) whilst contained in the buckets.



Fig 2.4 High breast-shot waterwheel, Millbank Mill, Mountrath (017-009)

The volume was obviously determined by the amount abstracted from the river and the width and depth of the headrace. So that the quantity flowing through the wheel was not dependent on the rate of flow of the river, a mill pond was invariably constructed so that a reservoir of water could be created and tapped at will.

The head of water was artificially created by building a weir across the river and diverting part of the flow along a flattish headrace. By the time the water arrived at the waterwheel, it was at a much higher level than the river (fig 2.5). The water's potential energy was converted to kinetic energy as it flowed through the wheel. It then returned to the river along the tailrace.



Fig 2.5 What appears to be an estate wall is in fact a 200m long revetted embankment of the headrace feeding Carrigh Mill, Kilnaseer (028-017). The resultant head of water was some 6m high by the time it reached the mill.



Too few waterwheels now survive to carry out any meaningful statistical analysis. However, the 1840s mill valuation books note the sizes of 53 waterwheels belonging to grain mills. They average 15ft in diameter by 5ft wide, but exhibit considerable variability in both dimensions (fig 2.6). The largest diameter wheel associated with a grain mill at that time measured 26ft and was in Abbeyleix Flour Mill (023-034). The widest wheels, both at 12ft, were at Clonaheen Mill (007-028) and Oldmill (009-015). None of these large wheels survives.

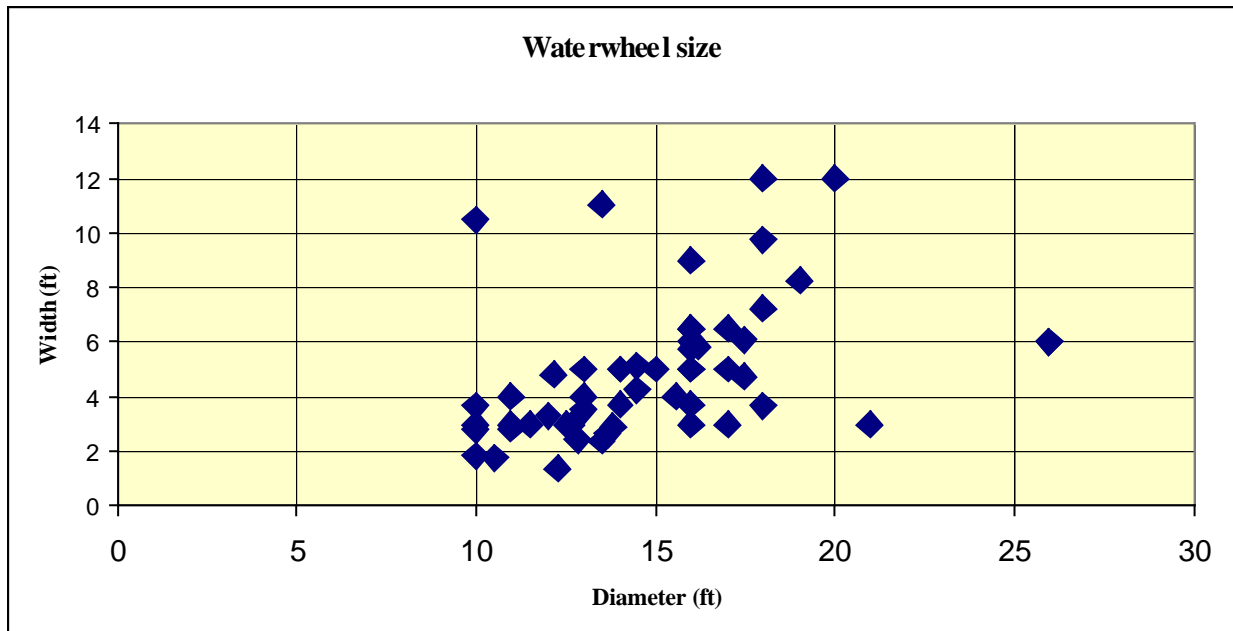


Fig 2.6 Diameter of waterwheel against width (sample size = 53).

Bucket-type waterwheels are classified according to where on the rim the water enters the buckets. In the case of breastshot wheels, the water enters the buckets between the eight- and ten-o'clock positions. There are also low breastshot, high breastshot, pitchback and overshot wheels; paddle wheels are invariably undershot, low breastshot or breastshot (fig 2.7).

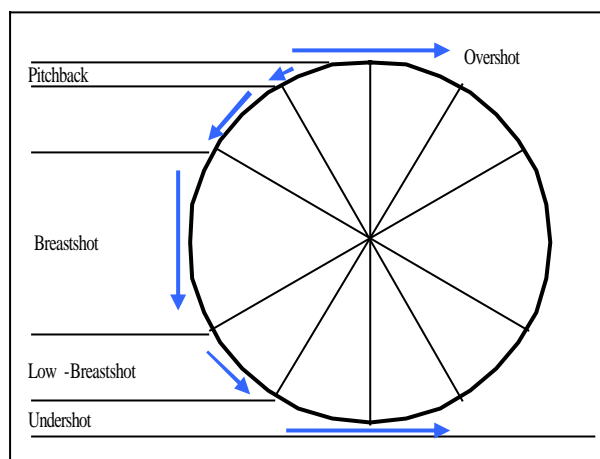


Fig 2.7 Waterwheel classification.

Statistical analysis of the 1840s mill valuation wheel dimensions shows that breastshot wheels are the commonest type in grain mills, followed by high breastshot wheels (fig 2.8). There are also a sizeable number of pitchback and overshot wheels. The latter two types harnessed the most power as the water fell through a much greater height compared with a breastshot wheel of the same diameter. However, in order to obtain the requisite head, it was usually necessary to excavate a longer headrace unless use could be made of a natural fall on the river. The breastshot wheel is therefore a compromise between maximising power delivery and minimising the effort expended in obtaining it.

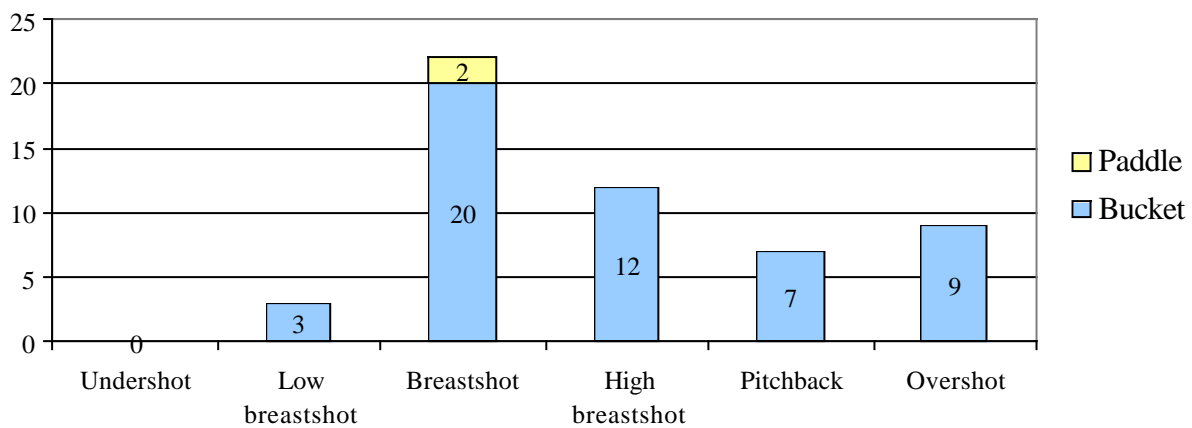


Fig 2.8 Frequency of bucket-type waterwheels in grain mills (sample size = 53).

### Wind power

Five wind-powered grain mills are recorded in Co Laois - at Capard (003-017), Ballybrittas (009-020), Monaferrick (014-037), Ballyadams (019-019) and Ballylynan (026-003).<sup>3</sup> All are situated in the north and east of the county, on the summits of low hills so as to avail of the winds from all directions (fig.2.2). At Lea Windmill, Ballybrittas (009-020), the hill is in fact called Windmill Hill.

Although some of these mills possibly date from the 1600s, their heyday would have been during the later 1700s and early 1800s when cereal growing was at a peak in Ireland. That there are so few windmills compared with watermills is because wind is difficult to control, impossible to store, and unreliable. The presence of a windmill reflects a local demand for milling capacity which could not be met by water.

There may well have been other windmills in the county, some possibly of wood (and known as post- and smock mills), of which there are now no traces. Those that survive probably do so because of their relatively inaccessible locations and lack of redevelopment pressure. The most remarkable survival is Ballylynan Windmill, where limestone has been quarried from all around to leave it on a rock eminence.

The surviving mills are of similar design, being thick random rubble towers of cylindrical profile (3.1-4.3m internal diameter), standing three floors high (5.8-7.2m), and with opposite ground floor doors and narrow slit windows (fig 2.9). They would have had four sails, affixed to a windshaft mounted in the cap atop the tower, and which could be turned into the eye of the wind. Canvas would have been spread over the sails to harness the wind, the actual amount of cloth spread being dependent on the wind speed. There were probably one or two pairs of millstones, for the shelling and grinding of oats. The actual cleaning and drying of the oats was probably done before the grain was brought to the mill.



Without exception, all the surviving shells are overgrown with ivy and in a poor state (mainly because of the collapse of their door lintels).

Without exception, all the surviving shells are overgrown with ivy and in a poor state (mainly because of the collapse of their door lintels).

Fig 2.9 Left: Lea Windmill, Ballybrittas (009-020). Right: Interior of Capard Windmill (003-017).

<sup>3</sup> The Spire at Carrick Wood, south of Portarlinton is said to have been constructed c.1740 on top of an existing windmill tower. Although the diameter and height of the tower accord with those of a windmill, the fact that Spire has *four* doorways, all seemingly original and with *two-centred* heads, is at variance with the two diametrically opposite square-headed doorways invariably found in windmills elsewhere.

## Steam power

Although steam engines have been used since the later 1700s, it was not until the mid 1800s that they became both affordable and reliable. Three steam-powered grain mills are noted in this survey. All originated in the mid and later 1800s and represent a level of investment not previously seen in the county's mills; they are described later in this chapter.

## Other power sources

A gas engine is recorded as having been used at Portarlinton Mill (005-010). Oil- and diesel engines were probably also used, although none has actually been recorded in this survey. With the inception of the Shannon hydro-electricity scheme in the 1920s, electricity gradually came to be used instead of, or as an adjunct to waterpower. The Portarlinton Mill was connected to the National Grid in the 1930s and most of the larger mills, where they were still operational, would doubtless have followed suite.

## 2.2 Corn and flour mills

Grain mills fall into two main types – corn mills and flour mills. Because the oat was once the predominant cereal grown in Ireland, it was generally known as ‘corn’ and the mills in which it was ground were termed corn mills. From the mid 1700s until the 1840s’ Famine, wheat also came to prominence as yeast-based bread made grew in popularity in urban areas. During this period, a number of flour mills were erected specifically to grind wheat into flour.

### Corn mills

Corn mills were usually built by the local landowner and his tenants were compelled under the terms of their leases to have their grain ground at his particular mill. The throughput in such mills was on a relatively small scale, so there was no great need for storage space – hence the relatively small size of many such mills (fig 2.10).

The miller either took cash or a proportion of the grain or meal as payment for grinding it. In the case of Mounteagle Mill (024-001), for example, the miller charged 10d per barrel. From these tolls, he paid the landowner his rental and eked a living from what was left. The miller usually had land attached to the mill and was able to supplement his earnings with agriculture. However, his finances were sometimes tenuous, as noted in the 1840s valuation of Eglisish Cornmill (027-019): “Pays rental of £200 for mill and five Irish acres. Cannot make more than £200 per year.”



Fig 2.10 Knocknagroagh Mill (008-051) is typical of many traditional corn mills in Co Laois. The actual mill is at right, and the kiln and store at left.

The grinding of oats into oatmeal for oatcakes and porridge (‘stirabout’) was a two-step process. First, they were passed through a set of shelling stones. These separated the inedible outer skin (shell) from the inner edible kernel (groat). The shelling process depended on the shell being parched and this was effected in an adjoining kiln. Once through the shellers, the shell was separated from the groat and the latter passed through the millstones where it was converted into oatmeal. It was then graded into fine, medium, coarse and pinhead oatmeal.

The most primitive corn mills had only one set of stones, driven through a one-step gearing from the waterwheel (fig 2.11). The stones doubled as shellers (being set wide so as to nip off the shell without grinding the groat) and grinders (being set close together to mill the groat).

A number of mills with only one pair of stones are recorded in the 1840s mill valuation book. Even then, their technology was regarded as old fashioned. Of the mill in Lea townland on the River Nore (005-0035), the valuation officer noted that the machinery was “old and in bad condition ... out of repair and gets little to do”. The mill in Doon townland (017-048) was likewise described as "old".

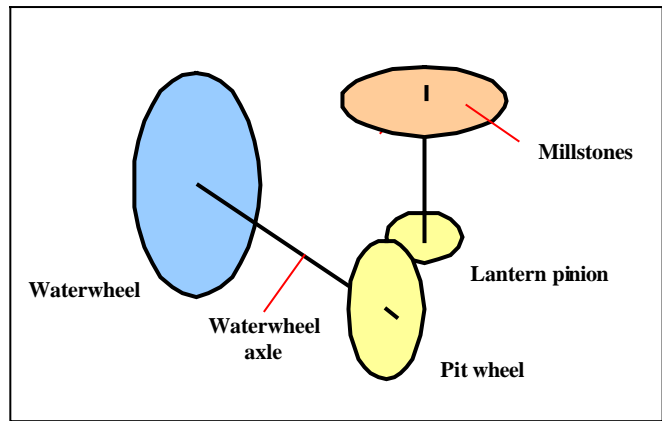


Fig 2.11 One-step power transmission system.

More sophisticated corn mills had two or three sets of stones – one pair specifically for shelling and two for grinding (sometimes wheat was milled as well as groats) – and had a great spurwheel power transmission system, by which one or all could be run simultaneously (fig 2.12).

Besides the principal drives to the millstones, there would also have been secondary power take-offs to elevators, sieves, fans, and sack hoists.

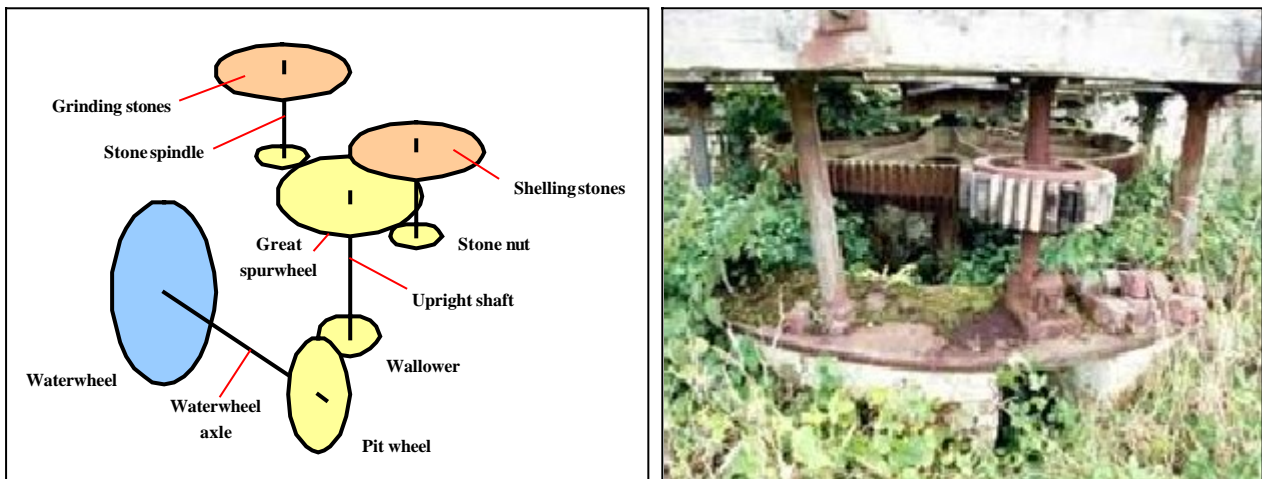


Fig 2.12 *Left*: Two-step transmission system to multiple sets of stones. *Right*: One of the few surviving examples of two-step gearing, at Millbank Mill near Mountrath (017-009).

## Flour mills

In contrast to corn mills, flour mills represent a much more industrialised form of grain milling. Considerably more money was invested in the construction of such mills, not only by landowners, but also by entrepreneurs to whom the land was leased. Such a level of investment was, of course, in the expectation of a profitable return. Wheat was purchased in bulk at harvest time, stored in the mill and milled over the winter months. The accumulated sacks of flour would then have been dispatched to flour merchants and shop keepers. Because of the need to store grain and flour in bulk, such mills are generally larger than corn mills (fig 2.13).

Their size difference is also reflected in their rateable valuations. Most of the mills explicitly cited as corn mills in the 1840s valuation were rated at under £10, whereas the majority of those recorded as flour mills had higher ratings. Likewise, in the Griffith valuation of 1850-51, corn and flour mills were generally rated under and over £50 respectively.





Fig 2.13. *Left:* Grange Flourmill (032-023). This four-storey mill also incorporated a grain drying kiln and store. *Right:* Abbeyleix Mill - this massive five-storey building was built as a flour mill but also ground oats (023-034).

Of course, corn mills were also capable of milling flour, as were flour mills of grinding oats. Sometimes the distinction between the two types of mill is blurred in the documents. For example, Castletown Mill, Knockanina (016-014) is cited as a flour mill on the 1839 and 1890 OS maps, as a corn mill in the 1840s valuation and 1907 map, and as a corn and flour mill on the 1850 Griffith valuation. In reality, both types of grain were undoubtedly being processed.

At Coolrain (016-011), the same building encompassed a corn and flour mill. The former had three pairs of stones and was powered by a 15ft x 5ft wheel. The latter contained six sets of stones and was driven by a 19ft x 18ft 3in wheel. This was actually one of the largest grain mills in the entire county, of which nothing now remains.

After the famine, many flour mills switched their focus to oatmeal and also to provender milling (animal feed) as livestock husbandry came to the fore. This trend probably started in the 1830s and was accelerated by the famine at the end of the 1840s. A number of substantial corn mills are recorded as having been built around this time (fig 2.14).



Fig 2.14 Mid 19<sup>th</sup> C corn mill at Timahoe (018-017).

#### *Odlums' Mill, Portlaoise*

A significant exception to the trend was Odlums' flour mill at Church Avenue, Portlaoise (013-031). Located on the Triogue River, it originated as a flour mill in the 1820s. It was taken over by William Kelly in 1845. He also operated a mill at Mellick (013-038). With his death in 1865, both mills passed to his nephew, William Odlum. Odlum acquired Green Mill on the northern outskirts of what was then Maryborough in 1869. With his death in 1881, the three mills passed to his two sons William Perry and Richard Edward Odlum. This firm, which traded under the name W.P. & R. Odlum also operated a fourth flour mill in Portarlinton (see below).

It was the Church Avenue site which was the focus of development, the entire mill being reequipped with roller mills in 1887. This new technology offered a more effective and efficient means of abstracting white flour than traditional millstones and was especially suited to the hard, high-gluten American wheat varieties then being imported. The valuation books indicate that milling ceased at both the Green Mill and Mellick Mill around 1908, presumably because the Church Avenue mill was capable of producing all that was required. This site also had a considerable locational advantage over these other mills in being adjacent to the railway station on the main Dublin-Cork/Waterford line.

The mill burnt down in 1909, but was immediately rebuilt and restarted in 1911 (fig 2.15). Interestingly, it did not adopt steam power, but continued to use the Triogue River exclusively until connected to the ESB mains in the mid 1900s. Milling eventually ceased in 1978 after a new, much larger mill came into operation at Portarlington. The mill were demolished in 1991 and no traces remain.



Fig 2.15 Odlums' Mill, Portlaoise. The mill is at right and dates from 1911. The grain silos at left were erected in the 1930s (*John Loughlan*).

### 2.3 Steam-powered mills

The mid 19<sup>th</sup> century also saw the appearance of steam-powered grain mills. By now, steam engines were affordable and reliable and also offered the freedom of locating a mill near its customers rather than in proximity to a river.

Three such mills are noted in this survey – at Mountmellick, Ballylehane and Portarlington. All originated in the mid and later 1800s and represent a level of investment not previously seen in the county's mills, the vast majority of which were exclusively driven by water.

#### *Mountmellick flour mill*

Mountmellick Steam Mill (008-011) was erected in the 1840s by Samuel Sheane on the southern outskirts of the town. It is explicitly described as a steam flour mill in the 1851 valuation but the number of millstones driven by its engine is unknown. It appears to have been a relatively modest enterprise: although its rateable valuation was £65, there were 13 water-powered grain mills with higher valuations.



Fig 2.16 The MDA headquarters at Mountmellick was originally a steam-powered flour mill.

Despite being one of the first such mills in the county, it seems to have had a relatively short life as a flour mill. By the mid 1870s, the mill was being used as a grain store and it was converted to a malt house the following decade. The truncated shell of the mill is now incorporated in the headquarters of the Mountmellick Development Association (fig 2.16).

#### *Ballylehane corn mill*

The 1840s also saw the erection of a second steam-powered mill in the county, by John Simmons at Ballylehane (025-026). It is described in the 1850 valuation as a corn mill, rated at £35. The fact that it was a corn- rather than flour mill implies the grinding of oats, but whether for human or animal consumption (or both) is uncertain. As with the Mountmellick Mill, the enterprise was short-lived, the mill stopping in the early 1860s. Its shell and associated chimney still survive (fig 2.17).



Fig 2.17 Remains of Simmons' steam mill, Ballylehane.

### *Odlums' flour mill, Portarlinton*

The only non-water powered mill of any consequence in the county, both in terms of scale and longevity, was W.P. & R. Odlum's flour mill at Portarlinton (005-010). It opened in 1876 and doubtless owed much of its success to its proximity to the Mountmellick branch of the Grand Canal and Dublin-Athlone/Cork/Waterford railways (there was a siding off the main line at Portarlinton Station). These lines of communications would have been essential for the bulk import of grain from throughout the Midlands, and export of flour to the towns and cities.

The mill worked in tandem with the firm's mill at Portlaoise (013-031), and others at Naas and St Mullins. It was driven by steam power, augmented by producer gas (made by injecting steam on to hot coke). Because of its location, there would have been no problem importing coal. The mill was expanded in the 1930s with the addition of massive grain silos and also connected to the ESB grid around the same time. A new electrically-powered roller mill was erected in 1979 and the old mill incorporated in an ancillary building (fig 2.18). This new mill also made up for the loss of production at Portlaoise which was closed at the same time. It is one of the few flour mills still at work in the Republic.

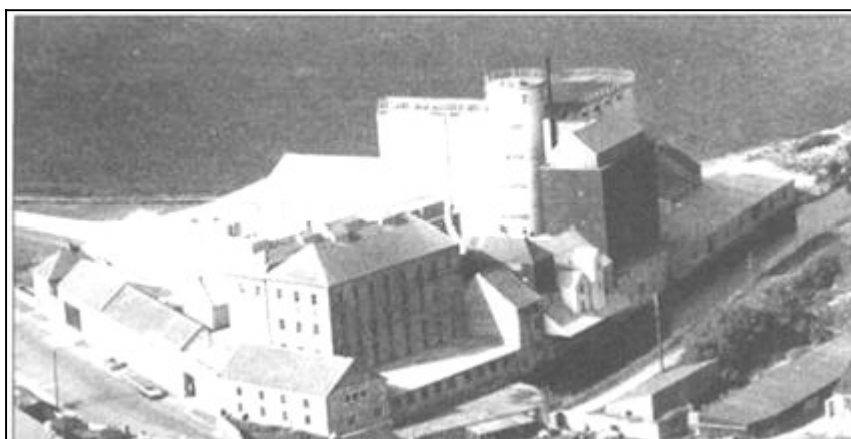


Fig 2.18 *Left:* Aerial view of Odlums' Mill, Portarlinton prior to rebuilding in 1969.

*Below left:* Roller mills at Odlums', 1981 (*Redmond Collection, Laois County Library*).

*Below right:* The rebuilt roller mill today.



## **2.4 Miscellaneous animal-feed mills**

Two electrically-powered provender (animal feed) mills are noted in Laois during the 20<sup>th</sup> century – Ennis' Mill, Mountmellick in what had been the malt mill associated with Conroy's Distillery (008-070), and another operated by Minch Norton at the former Maryborough Maltings, Portlaoise (013-026). There are doubtless other such mills of this type and many farmers would also have had their own facilities to mill barley, maize etc using tractor power or electricity.



## 2.5 Demise

The demise of wind-powered corn mills prior to the 1830s has already been noted. An analysis of the OS maps and valuation books also illustrates the rise and fall in water and steam-powered mills during the 19<sup>th</sup> and early 20<sup>th</sup> centuries – a gradual rise in numbers up to 1850, and decline thereafter (fig 2.19). Much of this decline was undoubtedly due to depopulation of the countryside, increasing urbanisation, and rationalisation of the industry. A few large mills came to dominate the industry, notably Messrs Odlums, and this is now the only major firm still engaged in milling in Co Laois.

The vast majority of grain mills have long disappeared, or survive only as ruinous, ivy-covered wall fragments. Fortunately, a number of substantial shells survive, as illustrated above. Two particular survivals merit special mention on account of their completeness.

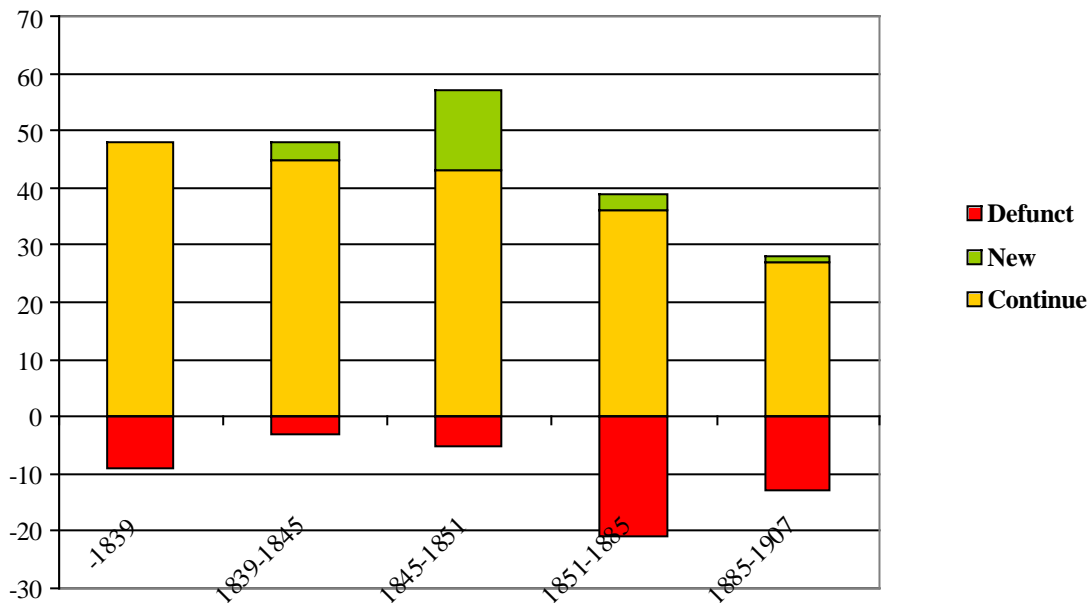


Fig 2.19 Continuity of water- and steam-powered grain mills in 1800s and early 1900s (sample size = 75).

### *Tonafarna Mill (014-002)*

This small traditional water-powered corn mill is situated on the Glasha River, between Ballybrittas and Stradbally. It was extant in the 1830s but appears to have been re-equipped in the later 1800s with the addition of a new breastshot waterwheel and three sets of stones (fig 2.20). The power transmission is a variant of the usual great spurwheel arrangement in that there is an additional gear step between the waterwheel and wallower. The kiln is also incorporated in the same building.



Fig 2.20 *Left*: External view of Tonafarna Mill. *Centre*: General view of stone floor. *Right*: Kiln drying floor.



*Newtown Mill (029-020)*

At nine bays and four storeys, this is the largest intact grain mill in Co Laois. It was built as a flour mill on the River Goul, west of Durrow, in the late 1700s or early 1800s. Its current owner has restored its low breastshot paddle wheel to working order and also preserved its power transmission system (in great spurwheel configuration), millstones and ancillary equipment (fig.2.21).



Fig.2.21 Newtown Mill. *Top*: Mill, mill pond and mill owner's house (at right). *Bottom left*: Power transmission gearing. *Bottom right*: Millstones.

### 3. BREWING, DISTILLING AND MALTING

Grain was not only processed for meal and flour, but also for beer and whiskey. Twenty-five drinks-related sites – breweries, distilleries and maltings – were identified in the county; these encompass 50 components (malt kiln, malt houses etc; fig 3.1). The breweries and distilleries were to succumb to competition from larger enterprises elsewhere and only two breweries were still at work in the later 1800s. The second half of the 19<sup>th</sup> century also saw the emergence of a sizeable malting industry which lasted well into the 20<sup>th</sup> century.



Fig 3.1 Distribution of brewing, distilling and malting sites in Co Laois.

#### 3.1 Breweries

Fifteen brewing-related sites are recorded in Co Laois, of which 14 are actual breweries (fig.3.2). Significantly, all but one are in or near towns - Mountmellick, Mountrath, Abbeyleix, Rathdowney, Durrow and Ballinakill. The vast majority were small-scale enterprises geared to local needs. They appear to have been established during the later 1700s or early 1800s, but most had stopped by 1840. Exceptionally, Perry's Brewery at Rathdowney was expanded during the later 1800s and continued to operate until relatively recently.



Fig 3.2 Brewing-related sites.

The one brewery not situated in a town was at Derry House near Clonaslee (003-035). It operated at a domestic scale during the 19<sup>th</sup> century and was probably geared to the needs of the estate's workers. There may well have been similar enterprises elsewhere, yet to be identified.



The only brewery-related site which was not an actual brewery was a malt house in the farmyard of Abbeyleix Demesne (023-043).

### Mountmellick

Six breweries are recorded in Mountmellick in the early 1800s. Three of these are not explicitly captioned on the 1839 OS map, suggesting that they were extremely small concerns and/or had ceased to operate by that date (008-032, -076 and -077).

Of the three breweries cited on the map, two may have utilized water power - the one established by Samuel Sheane at what was to become a sugar factory in 1851 (008-010), and Thomas and Samuel Pim's on the north side of Market Street (fig 3.3). Although the latter was close to the Owenass River, the water was used to drive a water pump rather than supply motive power.<sup>4</sup> Pims' was the only one to remain at work after the famine, finally stopping around 1890. Mineral water was also bottled here, and it was at one of the other former breweries in the town (008-076).

The third brewery, off Bridge Street (008-054), was actually on the bank of the Owenass, but there is no evidence that water power was ever harnessed. Of all the breweries in the town, this is the only one with upstanding remains (fig 3.4).

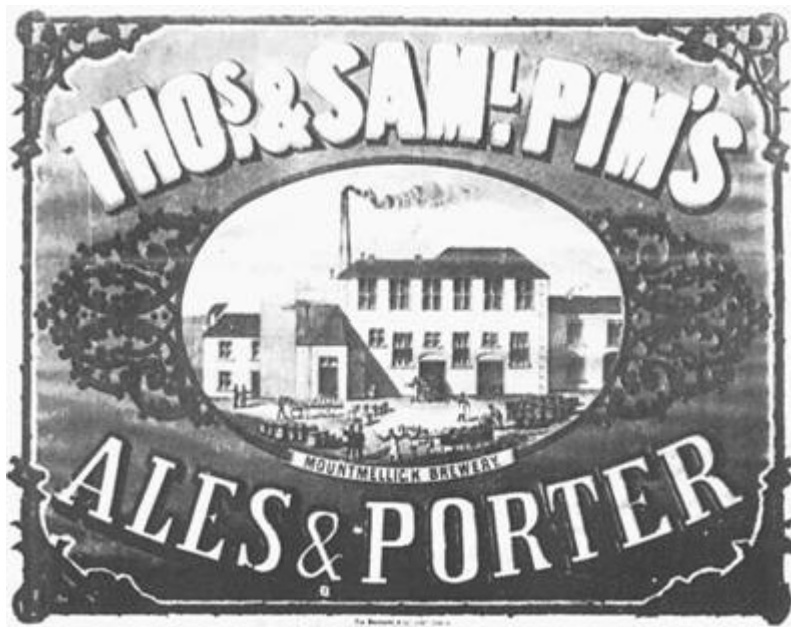


Fig 3.3 Pims' Brewery, Mountmellick (008-014).



Fig 3.4 Remains of brewery near Bridge Street, Mountmellick.

<sup>4</sup> There was also a tannery at this site, so it is possible that the water was used during the processing of the hides rather than in the brewery.

## Mountrath

Two breweries are recorded in the town in the 1830s. The one on Bridge Street (017-045) is described as “old” on the 1839 OS map and had presumably stopped work. Although the second one - Egan’s Brewery (017-059) - is cited on the map, it seems to have stopped in the 1840s.

## Abbeyleix

A brewery is cited at the south end of Main Street on the 1839 OS map (023-042). As at Mountrath, there is no evidence that it was working after the famine.

Interestingly, a water-powered malt mill is also recorded on the same map in the farmyard associated with Abbeyleix House (023-043). It may have been associated with a domestic-scale brewery associated with the estate, but how long it functioned is uncertain.

## Rathdowney

Robert Perry converted a flour mill on a tributary of Erkina River at Rathdowney to a brewery around 1831 (028-011). The mill continued to be used, but now ground malt. Unlike most of the other breweries in Laois, it survived the famine and was enlarged in the later 1800s.

A late 19<sup>th</sup> century photograph shows a number of very substantial buildings along the east side of the mill pond, including a six-storey malting house and adjoining kiln (fig 3.5). Eastholme,



Fig 3.5 Late 19<sup>th</sup> century photograph of Perry’s Brewery (*W. Lawrence*).

erected in 1870 as a residence for John Perry, is also shown.

In later years, soft drinks were produced in addition to a range of ales. Messrs Perry were eventually taken over by Cherry’s Breweries Ltd in 1959 and production ceased in 1966. A meat

processing plant was subsequently established on the site. Disappointingly, virtually nothing is left of what once was the county's largest brewery.

## Durrow

Two small breweries are recorded in Durrow during the early 1800s (029-048 and 029-049). Neither is marked on the 1839 OS map, implying that they had either stopped work or were too small to be recognised by the surveyors.

## Ballinakill

A small water-powered brewery operated in the village of Ballinakill during the late 1700s and early 1800s (030-015). Production ceased in 1832 and the malt mill was reutilized as a corn mill until the 1850s. No traces of this site survive.

## 3.2 Distilleries

Three distilleries are recorded in Co Laois – at Mountmellick (008-070), Mountrath (017-045), and Portlaoise (013-075). Significantly, all three are in major centres of population, as demanded by the economics of the industry. All operated during the 1700s but their relatively small outputs were such that they could not compete with larger distilleries elsewhere.

Only Conroy's at Mountmellick was still at work in the 1830s but bankruptcy forced its closure the following decade.

Apart from a malt house associated with the Portlaoise distillery (fig 3.6), no remains of these distilleries survive.



Fig 3.6 Malt house, Factory Lane, Portlaoise (013-043).

## 3.3 Maltings and malt houses

Malting entails the germination of barley, a process by which enzymes present in the grain convert some of its starch content to sugar. So that these sugars are not dissipated when the grain starts to grow, sprouting is halted by drying it in a malting kiln. Such kilns are similar to those used in corn mills to dry oats, but are generally larger. The malted grain is then ground into malt which provides the source of sugar for the brewing and distilling processes.

The term 'malt house' is used here to distinguish those relatively small-scale operations in isolated buildings from the larger maltings which utilized a number of malting floors and kilns. Eight malting-related sites were identified in this survey, at Mountmellick, Portlaoise, Stradbally, and Donaghmore (fig.3.7). Interestingly, there are 23 components related to these sites. This reflects the extensive nature of this site type compared with grain and textile sites.



Fig 3.7 Malting-related sites.



## Mountmellick

Irishtown Maltings was established by James Sheane on the southern outskirts of the town in the 1850s (fig 3.8a). He also operated two smaller malt houses nearby – one in a former sugar factory (008-010) and another in a purpose-built structure near the town centre (fig 3.8b). Eugene Codd took over Sheane's operations in the 1880s and also converted a nearby defunct flour mill into a malt house (008-011); the latter is now occupied by the Mountmellick Development Association.



Fig 3.8a (left): Irishtown Maltings (008-032). Fig 3.8b (right): Malt house off O'Connell Square (008-066).

Traditional malting came to an end in Mountmellick around the start of the second world war. However, the Irishtown Maltings received a new lease of life in 1945 with the opening of a malt extraction plant by Mountmellick Products Ltd. The other former malt houses were taken over by Messrs Odlums and then by Irish Grain Ltd for grain drying and storage.

The Irishtown Maltings survives intact, as does the malt house near the town square; unfortunately both are unoccupied and becoming derelict.

## Portlaoise

Marlborough Maltings were established in Portlaoise by John Wrafter in 1866 (013-026). This extensive site comprised a barley store, two malt stores, two malt houses and three kilns. Messrs Gibney took over in the 1880s and continued to malt until the 1970s. The buildings were subsequently used for grain drying and storage (fig 3.9).

Latterly owned by Messrs Minch Norton, the site has recently been sold for redevelopment. Because of their status as Protected Structures, some of the buildings will be retained and incorporated into the new development.



Fig 3.9 Maryborough Maltings (013-026).

The malt house associated with Maryborough Distillery in Factory Lane has already been noted (fig 3.6).

## Stradbally

The largest maltings in Co Laois are to be found at the west end of Stradbally (fig 3.10a-c). Malting commenced in 1873 under Messrs Barry and Norton. In the 1890s, a defunct flour mill was taken over on the opposite side of the road and a malting house and two kilns erected (fig

3.10d). In the early 1900s, more malt houses, kilns and a massive cylindrical steel grain silo were built on the original site. At its peak, three large malting houses and five kilns were in operation. As at Portlaoise, Messrs Minch Norton eventually came to own the site.

The maltings-related buildings on the north side of the road have been converted into apartments. Those on the south side are still used by Greencore Ltd for the drying and storage of grain. As a group, they are one of the most visually striking industrial sites in Co Laois.



Fig 3.10a (*top left*): Stradbally Maltings (019-001). Fig 3.10b (*top right*): Malting floor. Fig 3.10c (*bottom left*): Malt kiln. Fig 3.10d Malt house and kiln on opposite side of road (014-012).

## Donaghmore

In the later 1800s, a malt house was established just west of Donaghmore beside a large flour mill powered by a tributary of the Erkina River (fig 3.11). The proximity of the mill suggests that the malted barley was probably also milled into malt at this site. After malting ceased, the building was used for cleaning and storing seed grain. Although long disused, it is reasonably intact and in fair condition.



Fig 3.11 Donaghmore malt house and kiln (028-004).



## 4. TEXTILE MILLS

A total of 28 textile-related sites have been identified in Co Laois, encompassing 33 separate site components (fig 4.1). The most significant industry, in terms of recorded sites, is that relating to the processing of wool into cloth. A long way behind, numerically, are flax and cotton mills.

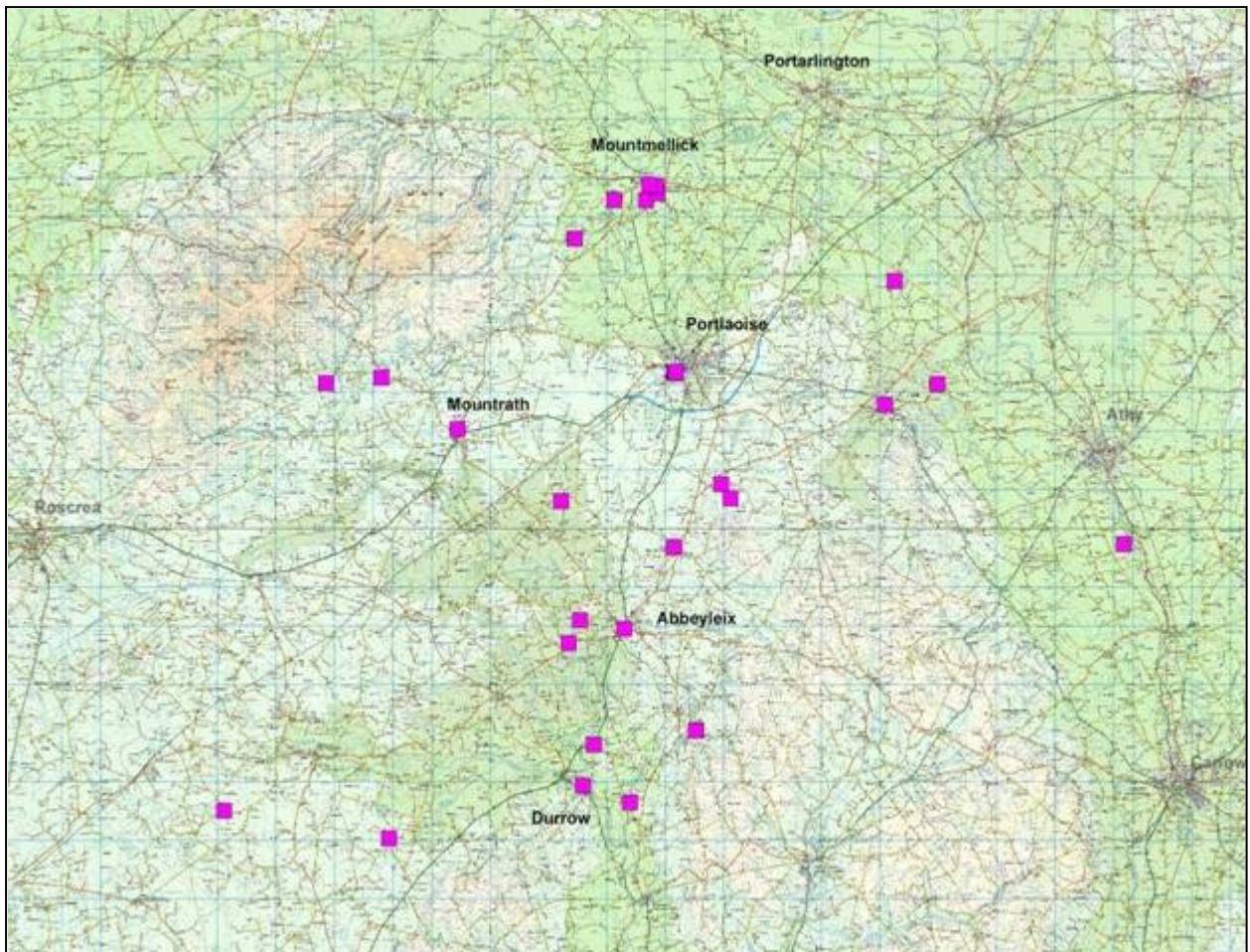


Fig 4.1 Distribution of cotton, flax/linen and woollen mill sites in Co Laois.

### 4.1 Woollen mills

The preparation of worsted (woven cloth using long staple fibres of wool) entails four main processes – (1) carding the wool, (2) spinning it into yarn, (3) weaving it into cloth and (4) finishing by fulling. Twenty sites engaged in one or several of these processes in Co Laois. As can be seen from their distribution, they are widely dispersed through the county, but with a small concentration around Mountmellick (fig.4.2).

Most of these mills are cited on the OS maps as woollen or worsted factories (or manufactories). However, comparison with the 1840s mill valuation books indicates that these terms belie a variety of functions.

#### Carding mills

Carding is the process by which the fibres of the raw wool are laid parallel to one another in preparation for spinning. This is a slow process to carry out by hand, and with the inception of mechanised spinning in the mid 18<sup>th</sup> century, it was not long before carding also became automated as well.



Fig 4.2 Woollen mills in Co Laois.

Three carding mills are recorded in Co Laois. Two were adjacent to each other in Ironmills townland, east of Ballinakill and were at work in the 1830s (when they started is, however, unknown).

One of them was operating in a defunct flour and corn mill and was powered by a 15ft x 2ft waterwheel (030-016). The wheel's relatively small size indicates that only modest amounts of power were necessary for the carding cylinders. These presumably supplied the manually-operated spinning frames which were also recorded here at this time. The premises are described as a spinning mill in the 1850 valuation book. However, its low rateable valuation - £14 - suggests that this process had not been mechanised and was still being carried on by hand. The valuation books indicate that it operated until the end of the 1800s.

The adjacent mill (030-025) had two carding machines driven by a 12ft x 2½ft waterwheel. The 1840 valuation book noted that it could process 84lb of wool per day and the daily turnover was £88. If correct, this was a highly profitable enterprise, albeit on a small scale. The premises are also described in the 1850 valuation as a spinning mill, but with a value of only £6, it was undoubtedly being done by hand rather than with water power. Operations ceased in 1863, the valuation entry for that year noting "spinning mill down." This suggests its end might have been accidental rather than by design.

A third carding mill is recorded in Pass townland, south of Portlaoise (018-014). A 15ft x 3ft waterwheel drove two carders, a teaser and set of wash feet (for fulling cloth). It had gone out of use by the 1880s. No traces of any of these mills now survive.

### Spinning mills

Three large mills are known to have specialised in the spinning of wool into yarn during the 19<sup>th</sup> century. A fourth mill, at New Mills, will be considered later under 'integrated mills'.



### *Monordree Mill*

This mill was situated in Barkmill townland, just west of Mountmellick (007-007). It was established by Thomas Kemmis in 1827 and adjoined Monordree House. Although cited as a “woollen manufactory” on the 1839 OS map, the 1840s mill valuation book describes it as a “spinning worsted factory” in which a 40ft x 5ft high breastshot waterwheel drove over 3600 spindles. This was biggest wheel ever to operate in Co Laois and was supplied by the Owenass River (fig 4.3). It was this size so that the small pinion gear taken off its rim gear would rotate fast enough to move the spindles at the correct (high) speed. Although a Mr Beale, its owner at that time, was bankrupt, the premises still commanded the highest rateable valuation of any textile mill in Laois - at £48, it was more than twice that of the next (£21). In the mid 1840s, the mill was converted to flour milling. It reverted to a woollen factory in the early 1860s under James Millner and is cited as such on the 1888 and 1907 OS maps. Sadly, its three floors have since been reduced to one and the huge waterwheel pit is long empty.



Fig 4.3 This photograph of Monordree Mill shows a spoked high breastshot waterwheel. There would have been a spur gear around its rim, with a bull-nut take-off to a shaft into the machinery (*O'Keefe, p.22*).

### *Fruitlawn Mill*

Fruitlawn Mill, in Boley townland just west of Abbeyleix was also a substantial spinning enterprise (023-036). As with New Mills, it is also captioned on the 1839 OS map as a worsted factory, but is more specifically described as a worsted spinning factory in the 1840 valuation. Powered by a modest 15ft x 9½ft waterwheel off the River Nore, it was operated by Messrs Alan and Thomas Leech. Samuel Lewis, writing in 1837, noted that it employed about 200 people in the combing, spinning and weaving of wool.<sup>5</sup>

Of all the textile mills in Co Laois which are recorded in the 1850-51 valuation books, Fruitlawn boasts the highest rateable valuation, at £65. This indicates a sizeable concern and implies a substantial investment in its operation. This was also evident in the massive waterwheel at New Mills, noted above.

To maximise the changes of an uninterrupted water supply, particularly in the summer, it is probably no coincidence that Fruitlawn was located on the Nore, one of the county's principal rivers. The only problem with the river hereabouts is the absence of a natural fall. The lower the fall, the longer the mill race had to be to get the requisite head of water at the wheel. Here, it was necessary to cut not only a 1.4km long headrace, but also a 1.8km long tailrace to prevent backwatering (i.e. the race was two miles long).

The factory is cited on the 1890 OS map, but was disused by 1906. A modern house now stands on its site.

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<sup>5</sup> S. Lewis, *A Topographical Dictionary of Ireland*, vol.1, p.4 (Dublin, 1837).

### *Beechfield Mill*

In Poormansbridge, on a tributary of the Nore upstream from Fruitlawn, was Beechfield spinning mill (023-021). According to the 1840s mill valuation book, it contained 768 spindles (8 frames each with 96 spindles) and was originally driven by a 36ft diameter waterwheel off the Gloreen Stream, a tributary of the Nore. This was the second largest wheel recorded in Laois (after Barkmill) but had since been replaced by a 27ft diameter one to drive flax scutching and fulling equipment. It eventually became a grain mill, vestiges of which still survive.

### **Fulling mills**

Fulling was the earliest of the textile processes to be mechanised. Indeed, the first reference to a textile mill in Co Laois is to a fulling mill in Mill Land townland, east of Stradbally in 1641 (014-039). Such mills are also known as tuck mills, where woollen cloth was pounded by a pair of water-powered wooden hammers in a bath of urea (a strongly alkaline solution). Although the wool's natural oil facilitates spinning, it becomes odorous in the finished cloth so must be removed. Fulling not only cleans the cloth but also closes up its warp and weft, thus making it more hard wearing.

A fulling mill has already been noted above at the carding mill in Pass townland (018-014). However, where fulling was the sole textile-related activity at a site, it was invariably associated with a corn mill.

The 1839 OS map captions a “corn and tuck mill” at Doon (017-048), Templequain (033-004) and Ballydavain (034-010). The fact that ‘mill’ is used in the singular suggests that both activities were being carried out under the one roof, possibly using the same waterwheel. Such dual function mills are also noted elsewhere in Ireland at this time (e.g. Co Kerry).

At Grenan (035-008), the corn and fulling mills were quite separate, and this may also have been the case at Ballyroan (024-002). According to the 1840s valuation, the Grenan corn mill was driven by an 11ft x 2ft 10in waterwheel and had a rateable valuation of £3.0s.8d. Although the associated fulling mill was driven by a similarly size wheel, it was rated at only 15 shillings. Its much lower valuation supports the contention that fulling was such a small scale activity that it was not viable as a stand-alone enterprise.

Fulling could, of course, be undertaken without the assistance of water power. It was sometimes done by trampling the cloth in a large vat – hence the name ‘Walk Mill’ sometimes accorded to a locality (although there are none in Laois).

Of the six fulling mills noted in the OS maps and valuations, only Pass and Grenan were still working in the 1840s (but both had stopped by 1850). Nothing now survives of any of them.

### **Integrated mills**

New Mills, just west of Mountmellick, is the only certain example of an integrated woollen mill, whereby a number of processes were carried out at the one site (007-003).<sup>6</sup>

The premises are captioned “New Mills (worsted factory)” on the 1839 OS map, a name which suggests an early 19<sup>th</sup> century origin. The 1840s mill valuation describes the site as a “spinning mill, worsted factory and thickening mill” operated by John Millner. The spinning mill was driven by a 16ft x 8½ft wheel, and the fulling (thickening) mill by a 13ft x 5½ft wheel. Both were supplied by a 3km long headrace from an impressive weir on the Owenass River (fig 4.4).

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<sup>6</sup> A cursory glance at the OS map indicates that the mill is situated in Drinagh townland. However, closer examination shows it actually to be in Townparks. The boundary of the latter townland appears to have been deliberately extended to include it. Why this should be so must await further research.

The worsted factory which is referred to in the valuation was, in this instance, presumably where the yarn was woven into cloth which was then fulled. As power loom weaving was still in its infancy, this part of the production process was undoubtedly being carried out on hand looms.

By 1850, the factory had passed to James Millner (John's son). It was gutted by fire in 1857, but was quickly repaired and had restarted the following year (fig 4.5). James also ran the spinning mill in Barkmill townland (see above) and also a woollen factory in O'Connell Square, Mountmellick (008-080). The latter had originally been a cotton factory, but which aspect of wool production took place under Millner is unknown. Notwithstanding, its £53 valuation in 1851 indicates a substantial concern. The industry must have been reasonably buoyant as Millner not only rebuilt the mill, but also expanded his operations.<sup>7</sup>



Fig 4.4 Weir on Owenass River.



Fig 4.5 19<sup>th</sup> century drawing of New Mills (*O'Keefe, p.24*).

New Mills continued to operate to around the turn of the century and then became a corn and saw mill. Only an incomplete shell now survives. The O'Connell Square factory also seems to have lasted until the late 1800s but nothing survives.

## 20<sup>th</sup> century woollen mills

Two large woollen mills were established in Co Laois during the 20<sup>th</sup> century. Both are in stark contrast, in terms of their design and scale, to their 19<sup>th</sup> century equivalents.

### *Irish Worsted Mills*

In 1937, the Irish Worsted Mills opened at Portlaoise (013-054). Thanks to the advent of steam power and electricity, the principal locational constraint was no longer access to waterpower, but rather proximity to a workforce and to a railway for bringing in raw materials and distributing finished goods – hence its situation in Portlaoise and adjacent to the three main railways to Dublin/Cork/Limerick, Mountmellick and Waterford.

In contrast to the compact vertical floor configuration of the 19<sup>th</sup> century woollen mills, the principal factory buildings were only one storey high, with multiple bays and sawtooth roof fenestration to maximise the use of natural light (fig 4.6).

After the factory closed, it was taken over by Telecom Éireann in 1974 for use as their regional headquarters, a purpose which it continues to serve.

<sup>7</sup> It should be noted, however, that another woollen mill (008-032), which operated in a former brewery at Mountmellick during the 1830s, had become a wool store by 1851 and then a maltings shortly afterwards.

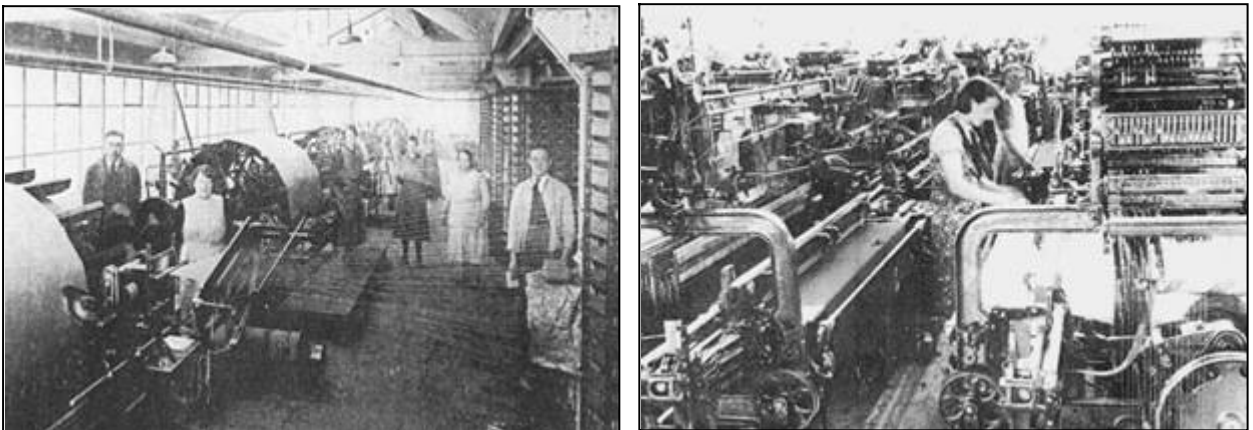
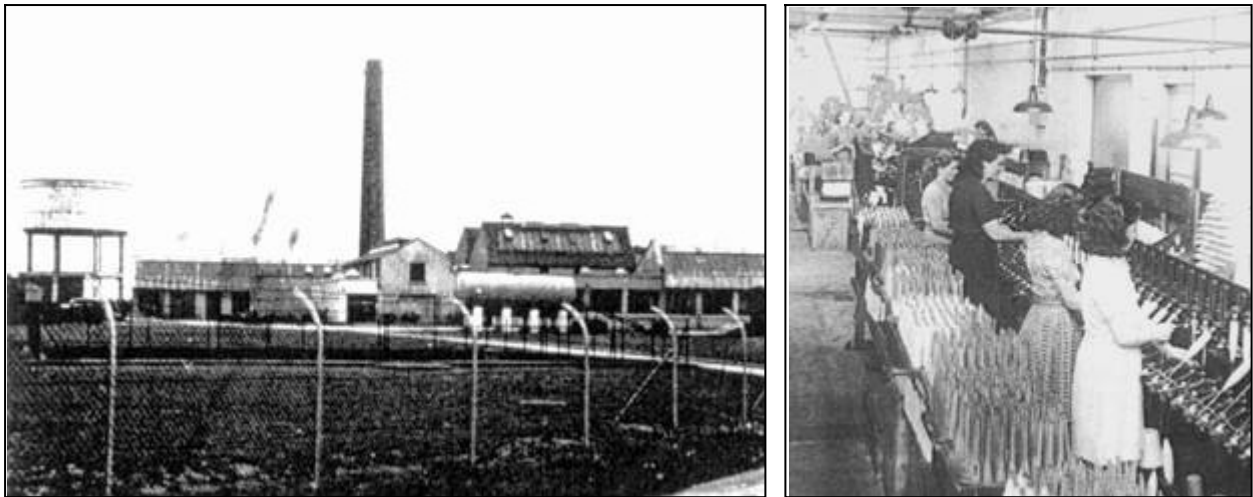


Fig 4.6 Irish Worsted Mills, Portlaoise. Winding (*top right*), beaming (*bottom left*) and weaving (*bottom right*).

### *Mountmellick Spinning Mill*

The former Bat Leathersgoods Factory at Davitt Road, Mountmellick was occupied by Allied Textiles in 1967 (008-068). Many of the buildings were similar to those at Portlaoise, with their sawtooth roof fenestration (fig 4.7). This factory was an off-shoot of Messrs Salts (Ireland) Ltd who operated a large worsted spinning mill at Tullamore. Although this new venture closed after only three years, it reopened in 1971 as Mountmellick Textiles. Specialising in the production of mohair and alpaca yarns for the upholstery trade (the raw materials were imported), it has only recently stopped production.

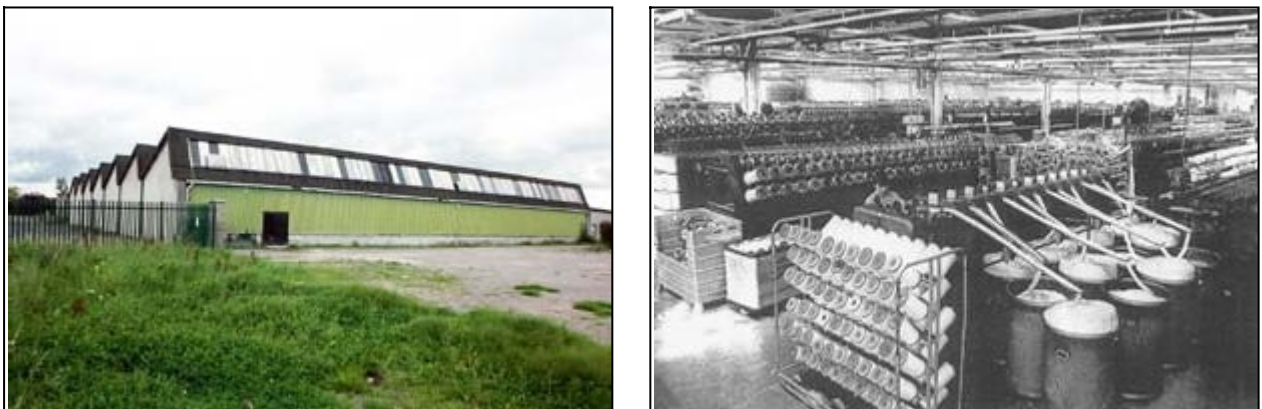


Fig 4.7 *Left*: Former Bat Leathersgoods Factory, Mountmellick (008-068). *Right*: Inside the preparing department of Mountmellick Textiles.



## 4.2 Flax mills

Five possible flax scutching mills are recorded in Co Laois (fig.4.8). In them, the flax fibres were mechanically separated from their enclosing woody stem prior to being spun (elsewhere) into yarn and eventually woven into linen cloth.

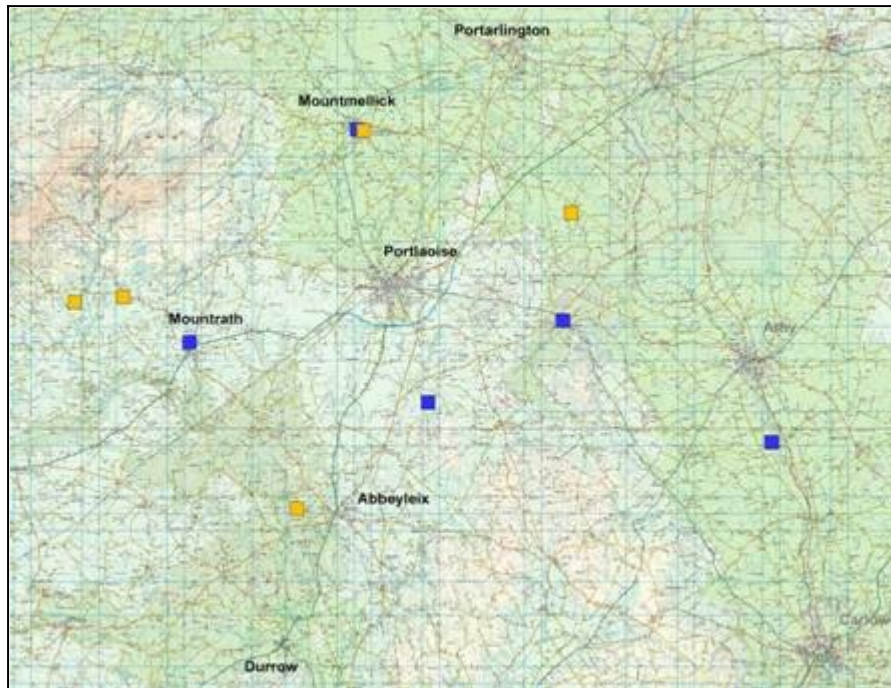


Fig 4.8 Flax mills (orange) and cotton mills (blue) in Co Laois.

The earliest reference to such a mill is at Beechfield (023-021), where it is cited on the 1839 OS map as being associated with a woollen factory. In fact, this is the only explicit citation of a flax mill on any OS map of Co Laois. It contained seven scutching stocks and set of flax breaking rollers, all powered off a 27ft x 4ft waterwheel. There is no mention of it in the 1840s or '50s valuation books, suggesting it had stopped working by then.

There is a possibility that the “old mill” cited on the Delour River in Northgrove townland, near Lacca Bridge, was also a flax mill (011-016). What is probably a horse-drawn flax breaking edge runner stone was found in its vicinity (fig 4.9)

Flax growing peaked in Ireland during the 1860s due to the ‘cotton famine’ caused by the American Civil War. In Ulster in particular, its cultivation is matched by a rapid growth in the number of flax mills. However, this does not seem to have been the case in Co Laois.

Only one water-powered flax mill is known to have been definitely at work in the county during the later 1800s. It was housed in the former malt mill associated with Conroy’s Distillery at

Mountmellick and was working from the mid 1860s to early 1880s (008-070).



Another is said to have been at work in a converted corn mill at Garrymaddock (014-001). It possibly operated in the later 1800s but was gutted by fire, hence its citation as ‘Burnt Mills’ on the 1907 OS map.

Fig 4.9 Edge runner stone, now at Northgrove House.

A steam-powered flax mill is reported to have existed in the vicinity of Roundwood House, near Mountrath (011-037). However, no confirmatory evidence could be found and nothing survives on the ground.

The fact that so few flax mills are recorded in the later 1800s implies that flax growing was not a major activity. This is also supported by the fact that no spinning or bleaching mills are recorded in the county. Of the flax mills, none survive.

### 4.3 Cotton mills

Mechanised cotton mills were at the forefront of much of later 18<sup>th</sup> century industrial development. Five cotton mills are recorded in Co Laois at this time (fig.4.8): two were for spinning the raw cotton into yarn, and the third was a weaving factory in which yarn was converted to cloth. However, compared with woollen mills, they were relatively short lived and none survived beyond the Great Famine.

A large four-storey building which now forms part of the Stradbally Maltings complex is said to have been erected as a cotton spinning mill, powered off the Stradbally River (fig 4.10). By the 1840s, it was being used as a flour mill and it eventually became a store when the site was redeveloped as a maltings.



Fig 4.10 Former cotton mill at Stradbally maltings (014-012).

A second cotton spinning mill was established by Mungo Bewley, a Quaker, at Mountrath around 1780 (017-002). Approximately 100-150 people were employed and some of the output was used at Mountmellick (see below). The mill was still at work in the 1840s, under Robert Greenham, the machinery being driven by an 18ft x 5ft waterwheel (5.5m x 1.5m). By 1850 it had been converted into a flour mill.

Lewis, writing of Mountmellick in 1837, noted that “the weaving of cotton is carried on very extensively and affords employment to about 2000 persons in the town and neighbourhood”.<sup>8</sup> Some of these weavers may have operated from a purpose-built factory set up by John Bewley (also a Quaker) at O’Connell Square around 1789 (008-080). Some 400 employees and 200 looms were apparently at work in 1800. The looms would have been manually operated as this location does not lend itself to waterpower. The cloth seems to have been finished elsewhere, possibly at Blessington, Co Wicklow where Bewley had a textile printing works. The building was subsequently converted into a woollen factory but no traces survive.

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<sup>8</sup> *Op. Cit.*, vol.2, p.395.



It is uncertain whether the remaining two cotton mills, at Kilmorony (026-030) and Cullenagh (018-028), were spinning mills or weaving factories. Whatever the case, the former had ceased production by 1800, and latter by 1850.

#### **4.4 Carpet factories**

A carpet factory was established in the grounds of Knockatrina House, near Durrow by Robert Flower, Lord Ashbrook in 1901 (035-013). Flower had invented the latch-hook needle and knot stitch, both necessary for the manufacture of tufted carpets and rugs. Twenty-four employees are recorded for 1902. The foundation onto which the wool was tufted was made of jute supplied by Messrs Goodbody of Clara, Co Offaly. Production was transferred to Abbeyleix in 1904 and the buildings are long demolished.

The new factory (023-029).was built by Viscount de Vesci of Abbeyleix. He had bought the rights to the latch needle from Flower. His enterprise was reasonably successful, undergoing several phases of expansion. One of its claims to fame is that it provided some of the carpets for the ill-fated *Titanic* and its sister ship the *Olympic*. The factory amalgamated with another at Naas to become the Kildare Carpet Company in 1909 and closed three years later. Its site, on the east side of Main Street, has recently been redeveloped for housing and no traces remain. However, some of the carpets produced by the factory are displayed in the town's heritage museum.

## 5. TIMBER MILLS

A total of 26 sites are recorded at which timber was processed (fig 5.1). With the exception of a bark mill, all are saw mills.

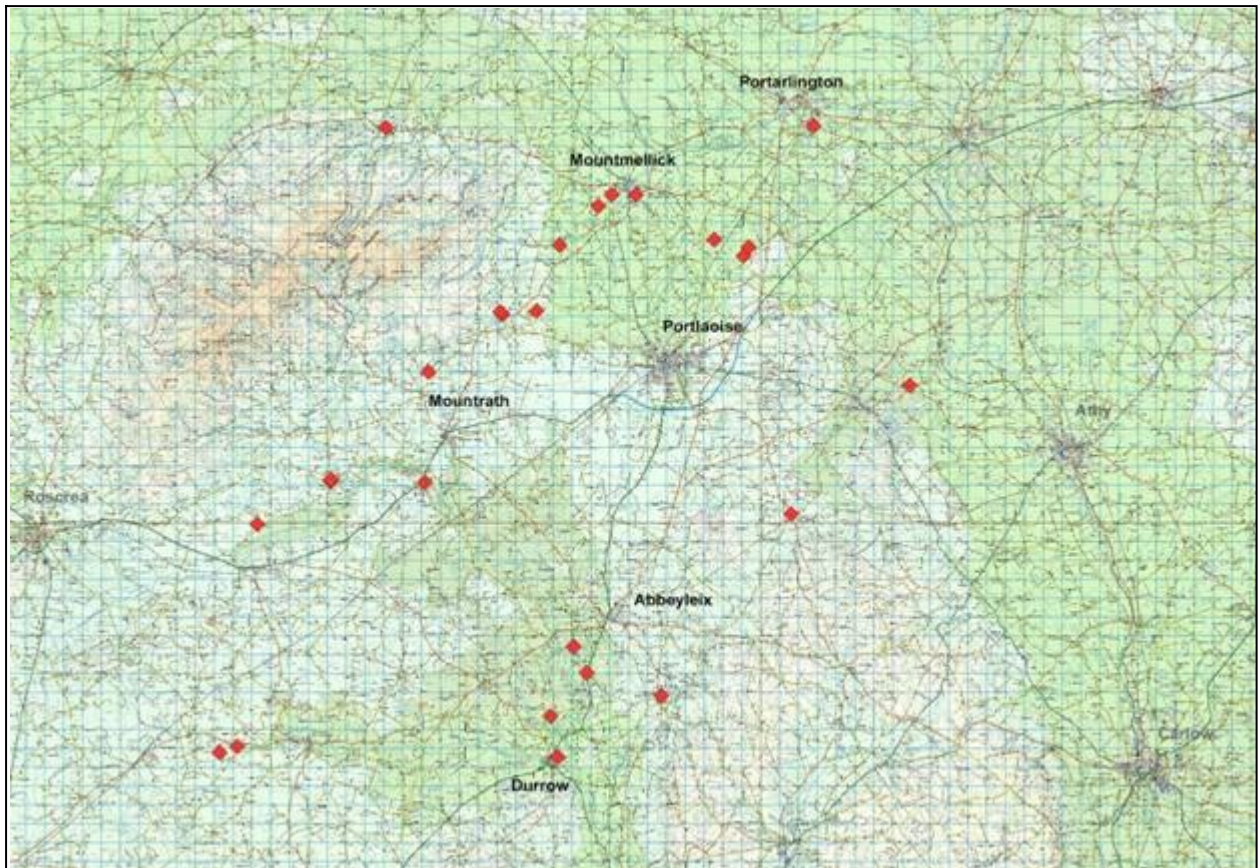


Fig 5.1 Location of timber mills in Co Laois.

### 5.1 Saw mills

Only two saw mills are recorded as working in the 1830s. One was for the private use of Sir Charles Coote at Ballyfin Demesne (012-019) and was water powered off a tributary of the Mountrath River. The other was owned by Viscount de Vesci of Abbeyleix Demesne and was also water powered (023-043). Significantly, both mills are situated in demesnes where trees are likely to have been grown as much for their commercial value as for their landscape aesthetics.

It was not until after the famine, with the diversification away from arable farming, that timber began to be grown extensively on a commercial scale. This is reflected in the increasing number of saw mills recorded on the OS maps and in other documents, particularly in the decades either side of 1900 (fig 5.2).

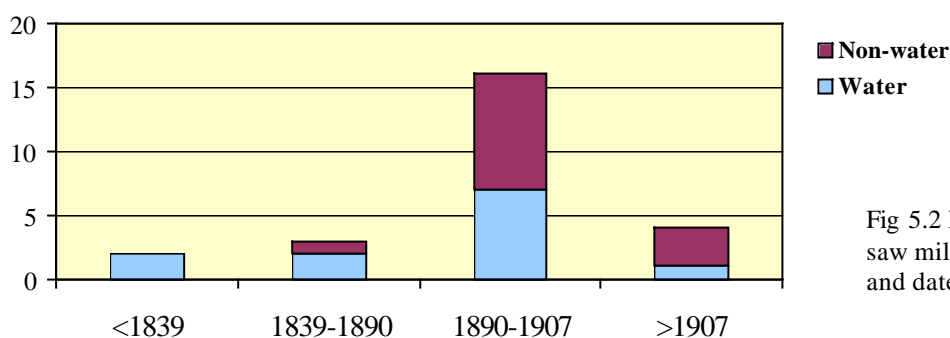


Fig 5.2 Frequency of recorded saw mills by power source and date.

As with the two early sawmills, many were located in demesnes - Killeen (008-048), Deerpark (011-012), Ballykilcavan (014-017), Dunmore (029-032) and Heywood (030-004). By then, steam engines and portable engines were available, enabling such mills to escape the confines of proximity to a watercourse. That six of the eight saw mills erected after 1890 were still being driven by water is due to the fact that they were set up inside existing grain mills and made use of their waterwheels (fig 5.3).

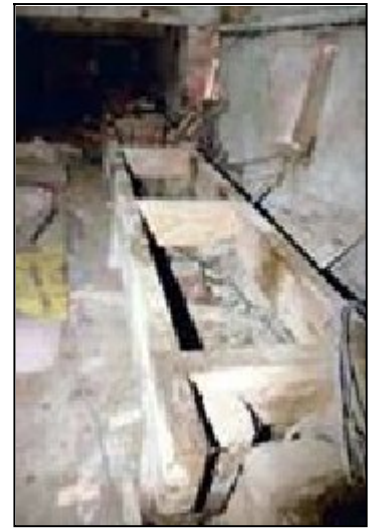


Fig 5.3 Remains of saw bench in Castletown flour mill (016-014).

Coolrain boasted two sawmills in the early 1900s. One was in a flour mill powered off the Tonet River (016-011). Although the other was on the north side of the river, it was driven exclusively by steam and specialised in the production of clog soles which were sent to Yorkshire to be made up (016-026). This mill worked from c.1910 to 1927. Neither mill survives.



Fig 5.4 Ballyfin saw mill (012-001).

The majority of saw mills have disappeared without trace, or survive only as ruinous shells. Fortunately, two almost complete mills survive. The first is in the farmyard of Ballyfin Demesne (fig 5.4). Erected around 1900 to replace a nearby water-powered sawmill, it survives complete with its saw bench and Crossley hot-bulb oil engine. This mill worked until the 1990s and the engine also drove a lathe, circular and band saws, and crop processing machinery.

The second mill adjoins the Cork Road at the south-east end of Abbeyleix Demesne (fig 5.5). It was established 1906 by Ivo de Vesci, proprietor of the estate and was driven by a stationary steam engine. In 1953, timber drying kilns were added and the mill operated until 1990. Although the actual sawing equipment has disappeared, the buildings are still in commercial use.



Fig 5.5 Abbeyleix saw mill (029-006). *Left:* View of kilns and mill (at right). *Right:* Interior of former sawmill

## 5.2 Bark mills

The townland name of Barkmills, near Mountmellick, indicates the former presence of a mill for grinding bark (007-029). This probably comprised a set of edge runner stones which pulverised oak bark for the tanning industry. Whether it was animal- or water-powered is now uncertain and its precise location is also unknown.



## 6. MISCELLANEOUS MILLS

Besides grain, drinks-related, textile and saw mills, a significant number of other types of mill have also been identified within Co Laois (fig 6.1). The most frequent of these are threshing mills, all of which were used in farmyard contexts to process cereals. Oilseed rape was also cultivated and processed in several mills. Besides its brewing and malting activities, Mountmellick also boasted a sugar factory in the mid 1800s. Several mills also crushed bone and one cut stone.

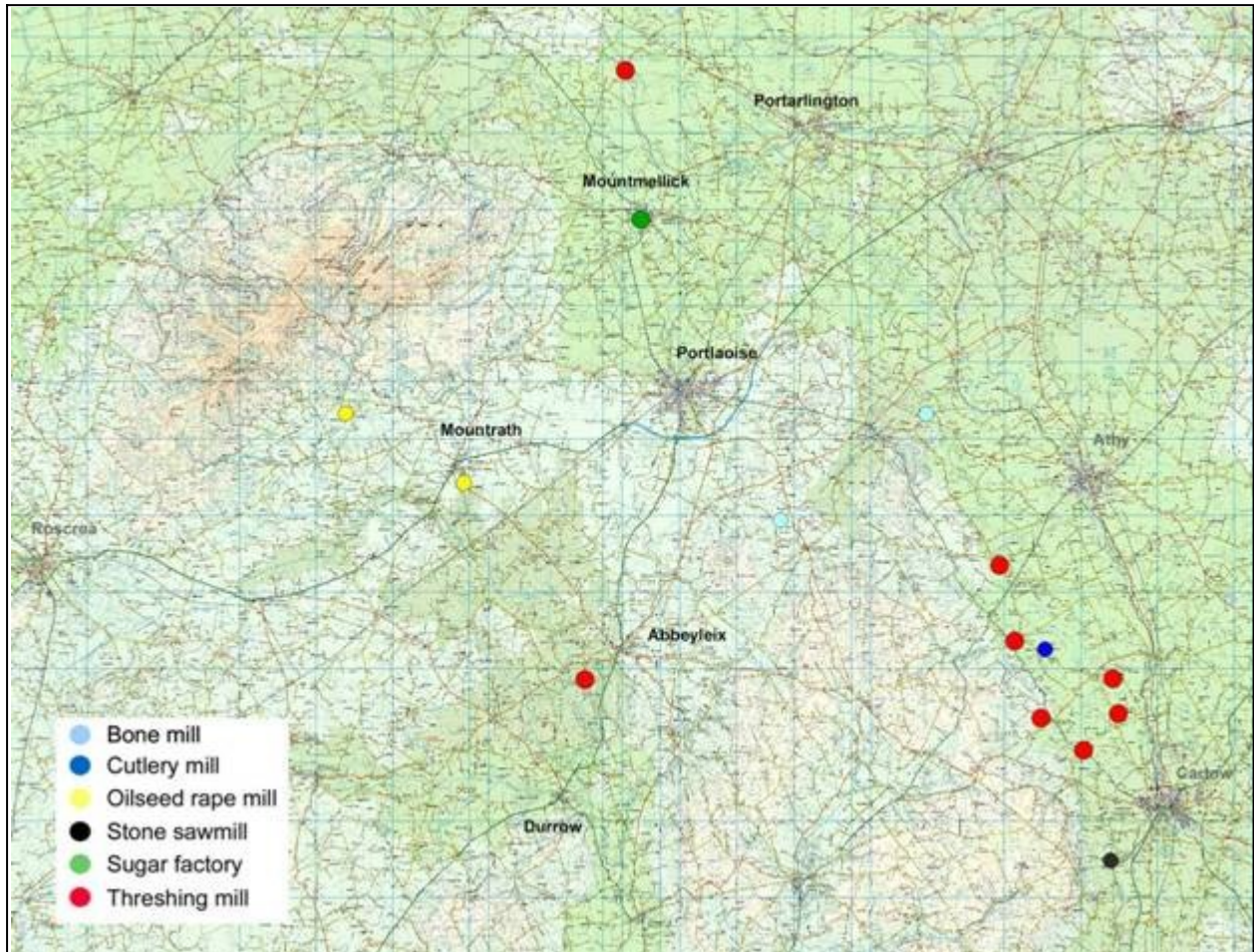


Fig 6.1 Distribution of miscellaneous mills in Co Laois.

### 6.1 Threshing mills

Eight threshing mills have been identified in this survey. Their purpose was to separate grain from chaff and stalk; some of them probably also had integral winnowers for cleaning the grain as well. Where depicted on the OS maps, these mills are captioned as thrashing mills or machines. The former were possibly in purpose-built buildings and the latter may have been freestanding machines set up in existing buildings.

All but one of these mills were in use in the 1830s and '40s, being marked on the OS first edition maps or else cited in the valuation books. Most are located in the fertile Barrow Valley between Athy and Carlow and all were in farmyards associated with large houses - Abbyleix House (023-043), Rahin House (025-019), Castletown House (026-024), Killeen House (032-018), and Hollymount House (032021). Such estates would probably have had sufficient acreages under cereal to require such machines and also the means of buying them.

Only one thresher is explicitly cited on the 1888 OS map (003-029). It is likely that others were also in use by that time but were incorporated into farmyard buildings and were no longer the



novelty that they were previously. It is also possible that some of the corn mills cited on later OS maps were in fact threshing mills rather than grinding mills (see below). How common such machines were is uncertain, as the acreage under cereals diminished after the famine. There would therefore not have been the same demand for crop processing equipment as before.

The map and fieldwork evidence indicates that five of the identified threshers were probably horse-powered. None of them now survives. Of the three water-powered machines, one has been incorporated into a modern house (032-030) and one survives as a derelict shell in the grounds of Killeen House (fig 6.2). This latter is actually cited as a corn mill on the 1839 OS map. However, it is recorded as a threshing mill in the 1840s Mill Valuation book. It was driven by a 10ft diameter by 3ft 2in waterwheel (3.05m x 0.97m). This is a relatively small wheel by the standards of grain mills and reflects the lower power demands of this type of machinery.



Fig 6.2 Threshing mill at Killeen House.

## 6.2 Oilseed rape mills

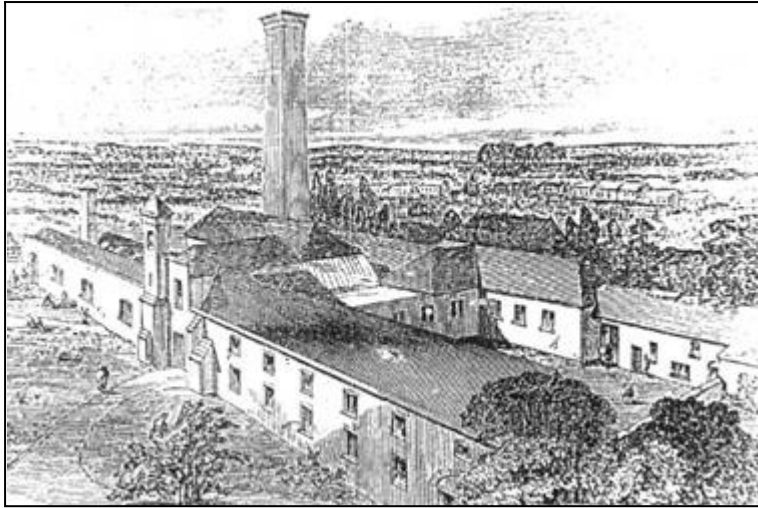
Two water-powered oilseed rape mills are cited in the 1830s OS map. The one in Lacka townland (011-019) was already ruinous by this date. The other, at Woodbrook House near Mountrath (017-046), was associated with a corn mill and had stopped by the mid 1800s. No traces of either mill survive.

## 6.3 Bone mills

Two bone mills were at work in the first half of the 19<sup>th</sup> century. These would have been used to pulverise bone, probably for use as fertiliser. One was associated with a corn mill belonging to Sir Edward Walsh at Mill Land, near Stradbally (014-017) and was driven by a 14ft x 4ft waterwheel (4.27m x 1.22m). The other was in the farmyard of Cremorgan House and was horse powered (018-021). No traces of either mill survive.

## 6.4 Sugar factory

In 1851, the Royal Irish Beet-Root Sugar Company set up a sugar factory in a defunct brewery on the southern outskirts of Mountmellick (008-010). It was the first factory in Ireland to extract sugar from beet and represented an investment of £10,000. An article in the *Illustrated London News* noted the use of two steam engines for the supply of motive power and steam (fig 6.3). Operations were short-lived and production ceased in 1862. Some of the buildings were



subsequently used for malting and grain storage. It is particularly unfortunate, given the historical significance of this site, that it has been comprehensively demolished.

Fig 6.3 Depiction of factory in *Illustrated London News*, 1852.

### 6.5 Stone sawmill

A stone cutting mill is recorded as being at work in the mid 1800s in Clogrenan townland, near Carlow (037-012). It had been set up in a defunct corn mill powered off the Fushoge River and operated until the 1880s. Its partial shell still survives and cut limestone flags from it have been used in the floors of the adjacent house (fig 6.4).



Fig 6.4 *Left*: Stone mill remains. *Right*: Cut limestone slabs in kitchen of adjoining house.

### 6.6 Cutlery mill

A cutler's mill and smithy are cited in Coolanowle townland, near Ballylynan, on the 1839 OS map (026-023). This water-powered mill may have been used to sharpen cutlery manufactured in the adjoining smithy. It went out of use in the 1840s and no traces survive.

## 7. MILLS OF HERITAGE SIGNIFICANCE

On the basis of the paper and field surveys, it has been possible to assess the heritage significance of each surveyed mill-related structure and building using criteria devised by the National Inventory of Architectural Heritage. Those of special significance can thus be highlighted and recommended to the planning authorities for statutory protection.

### 7.1 Evaluation criteria

The criteria used by the NIAH to assess the heritage significance of structures and buildings are: Architectural, Historical, Archaeological, Artistic, Cultural, Scientific, Technical and Social.<sup>9</sup> For mills, the four most pertinent criteria are Architectural, Archaeological, Historical, and Technical.

- **Architectural interest** can arise from many factors such as mass, scale and composition, the use and treatment of materials, and the presence of decorative elements. Where alterations or additions have been made, they should not detract from the mill's original character.

*Group value* also falls within this category. This recognises the fact that a site's architectural presence may sometimes be greater than that of its component structures and buildings.

*Setting* also comes under architecture. This refers to the positive contribution that a mill might make to its surroundings, whether it be a rural riverscape or urban street.

- **Archaeological interest** arises if a mill was erected before 1700, or is of later date but incorporates earlier material.
- **Historical interest** derives from what a mill may tell us about the past. It may reflect the style and construction materials of the period, or illustrate a phase in the development of that type of mill, whether it be an early example or its most evolved form. Such interest may be enhanced by the presence of alterations which demonstrate the site's evolution.

Uniqueness and Rarity fall within this category. These attributes arise when few examples of the once typical now survive and also where very few examples were built in the first place.

- **Technical merit** stems, in the case of mills, from their plant and machinery content.

In practice, all mills recommended here for statutory protection demonstrate at least two of the above attributes.

### 7.2 Rating

Levels of heritage significance can range from Record Only (i.e. not significant), through Local, Regional and National, to International. On the basis of heritage merit, recommendations can then be made regarding the statutory protection of significant examples.

Where only a few criteria are met, **local** rating is generally most appropriate. It is arguable whether such structures should be afforded statutory protection. NIAH policy is to protect structures only if they have a regional rating or above. However, local authorities are at liberty to protect such structures and often do so.

For the purposes of this report, locally rated mills are highlighted but not recommended for protection. However, any development applications relating to such mills should be mindful that they have some feature (or features) which place them above the ordinary.

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<sup>9</sup> NIAH, 2004. *Architectural Heritage Protection: Guidelines for Planning Authorities*, p.24 (Dublin: Department of the Environment, Heritage and Local Government).

Where a number of criteria are met, or there is something very special about a structure, then a *regional* rating is appropriate. *National* and *International* ratings are more problematic in that there is, as yet, no extensive body of comparative material. Some regional mills may in fact be of national importance. However, even if incorrectly rated, they should be accorded the same level of protection and planning control enforcement.

### 7.3 Statutory protection

Sites of special heritage significance may be accorded statutory protection against unauthorised development under the Planning & Development Act 2000 and also under Section 12 of the National Monuments (Amendment) Act 1994.

#### Record of Protected Structures

The Planning Act generally relates to sites which are still in use or which it would be beneficial to adaptively reuse. Such sites are listed in the Record of Protected Structures (RPS) which is maintained by Laois CC as part of its County Development Plan. There are 19 mill-related sites in the RPS (as listed in the 2006-11 County Development Plan; fig.7.1).

LAIAR no	RPS number	
003-017	Laois 540	Windmill, Capard Td
008-011	Laois 703	Mountmellick Maltings, Pearse St, Mountmellick
008-032	Laois 705	Irishtown Maltings, Mountmellick
009-020	Laois 574	Lea Windmill, Ballybrittas Td
011-012	Laois 579	Saw mill, Deerpark Td
012-001	Laois 586	Saw mill, Ballyfin Demesne
013-026	Laois 184	Maryborough Maltings, Coote St, Portlaoise
014-012	Laois 236	The Maltings, Main St, Stradbally (on north side of road)
014-017	Laois 598	Corn & saw Mill, Mill Land Td, Ballykilcavan
014-037	Laois 597	Windmill, Monaferrick Td
016-014	Laois 328	Castletown Flour Mill, Knockanina Td
017-009	Laois 740	Flour mill, Millbank, Mountrath
018-007	Laois 619	Lalor's Corn Mill, Ballycarnan Td
018-017	Laois 356	Corn mill, Timahoe
019-001	Laois 709	Maltings, Main St, Stradbally (on south side of road)
023-034	Laois 648	Abbeyleix Flour Mill, Abbeyleix Demesne Td
026-003	Laois 481	Windmill, Ballylynan Td
028-004	Laois 336	Flour mill & Maltings, Donaghmore Td
029-020	Laois 500	Newtown Flour Mill, Newtown Td

#### Record of Monuments and Places

The National Monuments Act is usually applied to disused monuments which merit preservation in their existing state; they were usually not practical propositions to reuse, or would suffer loss of significance if reused. Such sites are listed in the Record of Monuments & Places (RMP) which is maintained by the Department of Environment, Heritage and Local Government.

There are currently five mill-related sites in the Co Laois RMP (fig.7.1). All are of archaeological interest although no upstanding remains survive.

LAIAR no	RMP number	
009-026	LA009-022---	Site of horizontal watermill, Morett Td
014-039	LA014-042---	Site of 17 <sup>th</sup> century fulling mill, Mill Land Td
016-025	LA016-04102-	Possible mill site, Crannagh Td
017-056	LA017-010---	Horizontal watermill, Ardlea Td
018-020	LA018-014---	Horizontal watermill, Ballygormill South



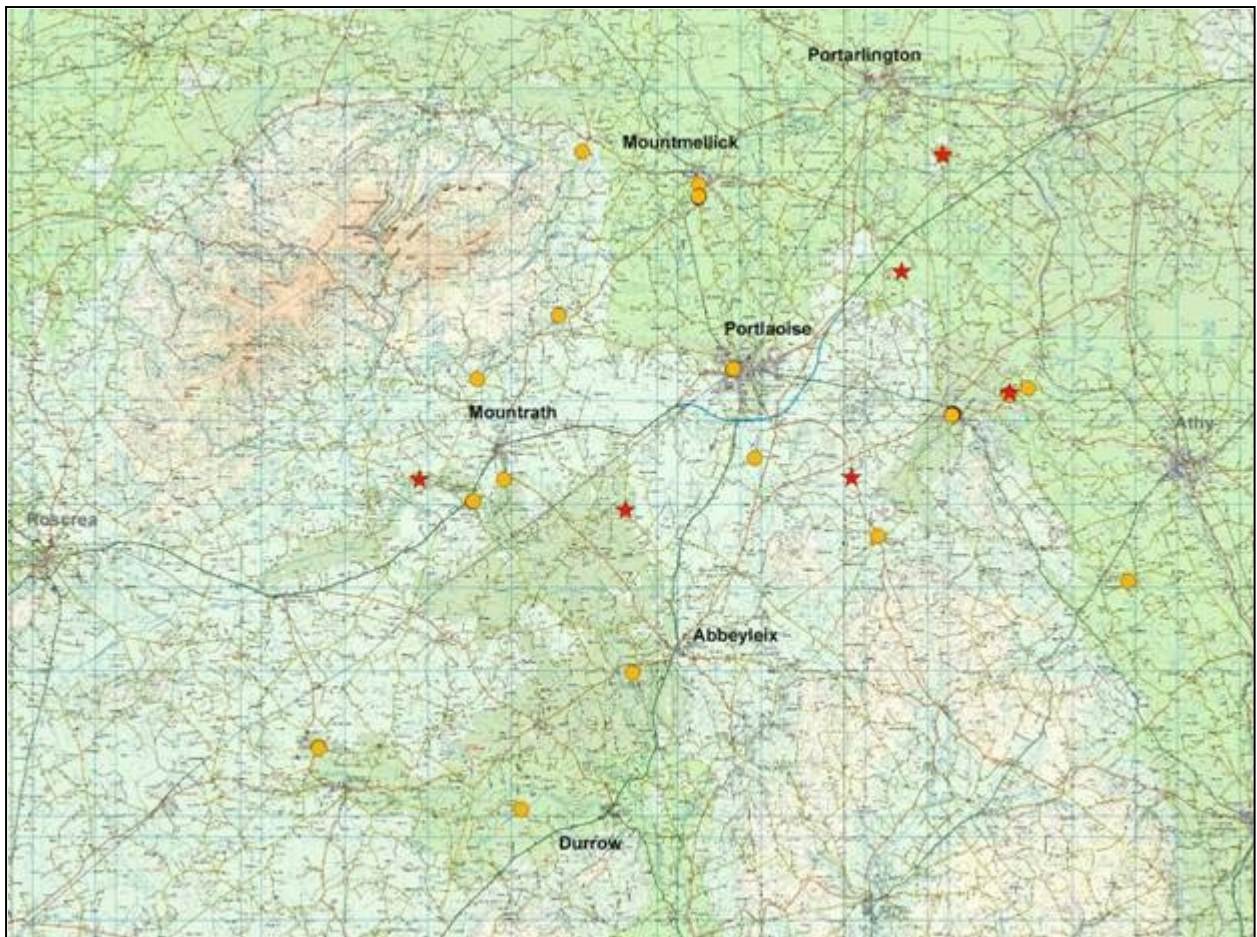


Fig 7.1 Protected sites in Co Laois: RMP sites (red) and RPS sites (orange).

## 7.4 Recommendations for statutory protection

### Record only

Of the 155 sites considered here, 103 have been evaluated as being of ‘Record only’ status and do not merit statutory protection. However, one of them is a possible mill site in Crannagh townland (016-025) and is in the RMP already.

### Local significance

Seventeen sites have been evaluated as being of local heritage significance (appendix 2.1). Four of them are included in the RPS:

LAIAR no	RPS number	
008-011	Laois 703	Mountmellick Maltings, Pearse St, Mountmellick
012-019	Laois 586	Water-powered sawmill, Ballyfin Demesne
014-017	Laois 598	Corn & saw mill, Mill Land Td, Ballykilcavan
018-007	Laois 619	Lalor’s Mill, Ballycarnan Td

### Regional significance

A total of 31 mills have been assessed as being of regional significance (appendix 2.2). Thirteen of them are already in the RPS, a level of protection which concurs with the findings of this report.

Excepting the possible mill in Crannagh (016-025), the remaining four sites already in the RMP and noted in section 7.3 should continue to be thus protected.

The following 12 sites are not in the RPS, nor have they been proposed by the NIAH (because they were not selected for field survey). They are therefore new recommendations for the RPS:

LAIAR no

008-066	Malt house & kiln, Pearse St, Mountmellick
014-002	Corn mill, Tonafarna Td
018-015	Corn mill, Pass Td
019-016	Corn mill, Timogue Td
023-021	Beechfield Mill, Poormansbridge Td
024-001	Flour mill, Mounteagle Td
024-002	Corn mill, Ballyroan Td
025-026	Simmons' Mill, Ballylehane Lower Td
029-006	Saw mill, Cork Rd, Abbeyleix
032-018	Threshing mill, Killeen House, Killeen Td
032-023	Flour mill, Grange Td
035-008	Corn & fulling mills, Grenan Td, Attanagh

The following four sites – all windmills – are in the RPS. On the basis of the author's evaluation, they might also be considered for the RMP as they are akin to archaeological monuments:

LAIAR no	RPS number	
003-017	Laois 540	Windmill, Capard Td
009-020	Laois 574	Lea Windmill, Ballybrittas Td
014-037	Laois 597	Windmill, Monaferrick Td
026-003	Laois 481	Windmill, Ballylynan Td

The following two sites are recommended as additions to the RMP:

LAIAR no

019-019	Windmill, Ballyadams Td
028-017	Headrace to Carrigh Cornmill, Kilnaseer Td (the mill itself has been demolished)

### National significance

Four mills are of national importance (appendix 2.3). Three are already included in the RPS:

LAIAR no	RPS number	
012-001	Laois 586	Saw mill, Ballyfin Demesne
014-012	Laois 236	Maltings, Main St, Stradbally (on north side of road)
019-001	Laois 709	Maltings, Main St, Stradbally (on south side of road)

The fourth site was not surveyed by the NIAH but also merits inclusion in the RPS:

LAIAR no

005-010	Odlum's Mill, Station Rd, Portarlinton
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### International significance

No mill-related sites in Co Laois are considered to be of international importance.

## 8. ISSUES

Having analysed the data on most known mill-related sites in Co Laois, a number of issues have emerged which are relevant to their future survival.

### 8.1 The use and adaptive reuse of mill buildings

Of the 212 mill-related buildings and structures identified in this survey, the survival status of all but one could be determined. Nothing or only traces were apparent at well over half this total (120). Less than one-third (63) were substantially or wholly complete (fig 8.1).

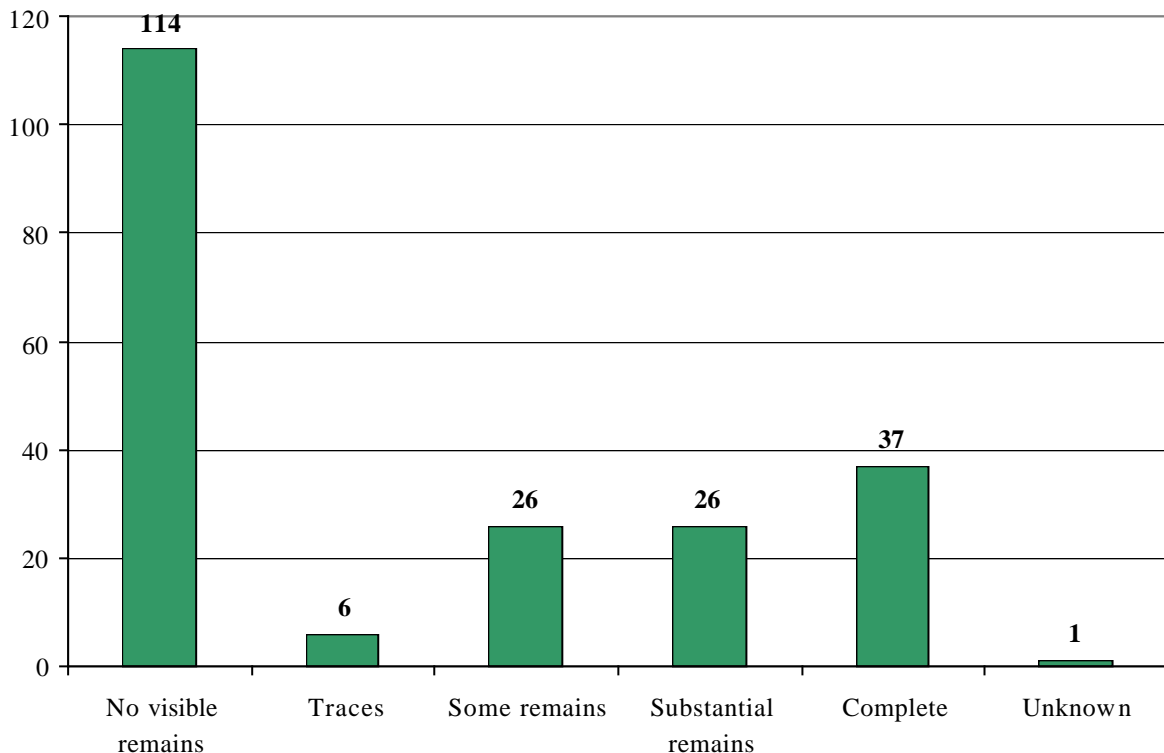


Fig 8.1 Frequency of mill-related buildings according to surviving remains.

Only 33 mill-related buildings were still in use at the time of this survey. However, only 10 still function as originally intended, and at only three sites:

- Odlum's Mill, Portarlington (005-010)  
The mid 20<sup>th</sup> century mill and two adjoining silos at the south-east end of the town still operate as a commercial flour mill.
- Stradbally Maltings (014-012; 019-001)  
On the south side of the road, three late 19<sup>th</sup>/ early 20<sup>th</sup> century kilns and two silos are still used to dry and store grain, albeit no longer for malting. On the north side of the road, a former house has been refurbished as part of a larger housing redevelopment.
- Maryborough Maltings, Portlaoise (013-026)  
A house formerly associated with the maltings continues to be used as such, although its link with the maltings is long severed.

A further 10 buildings are now used as stores, generally at a domestic level and mostly by default as little or no effort is required to adapt them to this use. The remaining 13 structures/buildings have been adaptively reused at five sites:

- Mountmellick Maltings (008-011)

Substantial remains of the former flour mill/ malt house have been incorporated into a refurbished building which serves as the headquarters of the Mountmellick Development Association. During the conversion, the top floor of the mill and the two kilns associated with the malt house were removed and little of the original building's character has survived the transformation.

- Irish Worsted Mills, Portlaoise (013-054)

This 1937 factory is now the regional headquarters of Telecom Éireann. The design and layout of these low-rise buildings lend themselves better to conversion than multi-storey 19<sup>th</sup> century mills. However, a number of structures, such as the chimney, were demolished during the site's redevelopment.

- Stradbally Maltings (014-012)

To date, this has been the biggest adaptive reuse project relating to an industrial site in Co Laois, four maltings/kilns having been converted to apartments. Although compromises were necessary, particularly with regard to the insertion of new window openings, the site's appearance has been largely retained.

- Saw Mill, Abbeyleix Demesne (029-006)

Some of the buildings associated with this extensive early/mid 20<sup>th</sup> century complex on the Cork Road have been put to commercial use as a workshop, stores and showroom for garden ornaments.

- Corn Mill, Sleaty (032-022)

This former 19<sup>th</sup> century water-powered corn mill has been converted into a house. Of all the conversion projects, this is the smallest and it is surprising, given their manageable scale and often picturesque surroundings, that more mills have not been thus converted.

The conversion of part of the former Maryborough Maltings, Portlaoise (013-026) to residential use was just about to begin when the site was surveyed during the course of this project.

As noted in previous chapters, adaptive reuse is nothing new. Cotton mills have been converted to flour mills, corn mills to flax mills, and saw milling machinery installed in corn mills. Such adaptations were possible because the existing sites were able to match the space and power requirements of their proposed new uses.

This is far from the situation today. Unimpeded access throughout large single-storey buildings is a basic requirement of the majority of today's industrialists. Moreover, because most mills are of 19<sup>th</sup> century date, they are considerably more expensive to maintain than modern ones. Many are also difficult to access, often being located at the ends of narrow unsurfaced lanes (the locational determinant usually being proximity to water power). Again, this is at variance with the requirements of modern users.

In short, old mills are problematic to adapt because of their relatively small size, internal spatial constraints, costly upkeep and difficulty of access. Moreover, where conversion does take place, a building's appearance is vulnerable to alteration to such an extent that little of its original character remains. Moreover, any surviving machinery may also be scrapped to free-up space. Striking the right balance between heritage loss and development gain is particularly problematic in the case of sites of heritage significance, especially those containing machinery (see below).

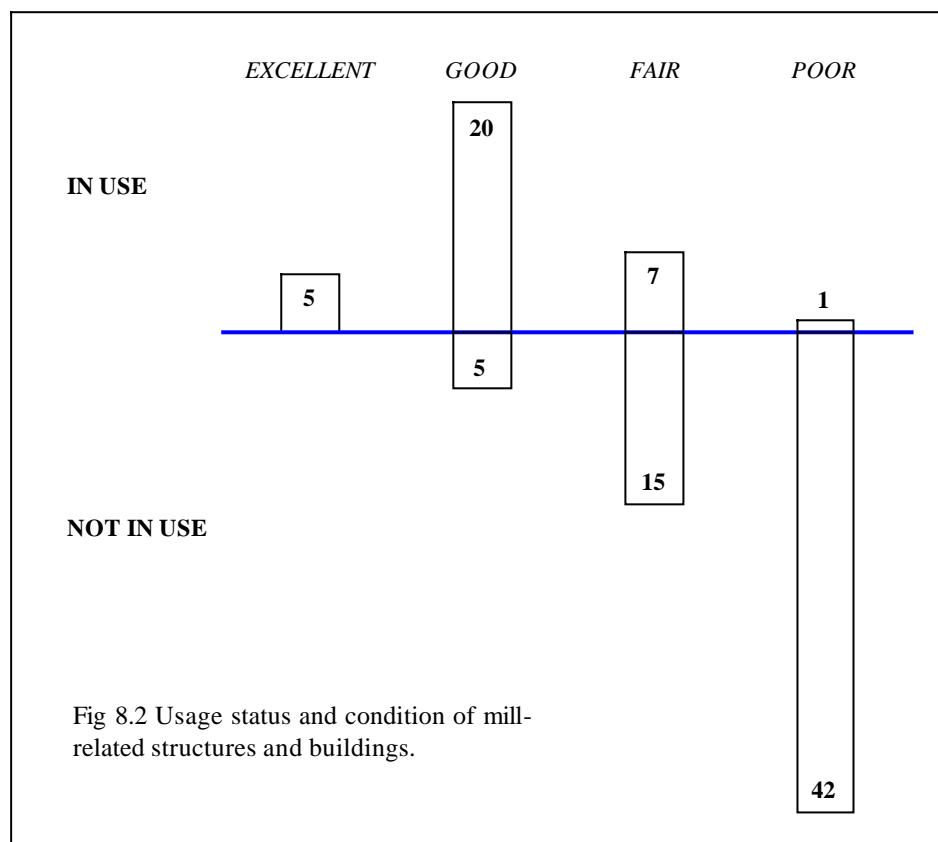
The issue of adaptive reuse is not specific to mills Co Laois, but pertains to mills throughout Ireland. A review of what has been achieved by way of conversion elsewhere, both successful and otherwise, needs to be undertaken at a national scale.



Only two defunct sites have been preserved in their original states – Newtown Flour Mill (029-020) and Tonafarna Corn Mill (014-002). The former is owned by a sympathetic owner and is well maintained. The future of the latter is unknown to the author as it appears to have been abandoned by its owner. Its preservation is a matter of urgency if its significance is not to be lost.

## 8.2 Repair and maintenance

Once a building or structure stops being used, it will almost certainly cease to be maintained. Most of the sites which are still in use or reuse are in good to excellent repair, whereas defunct ones were invariably found to be in a poor state (fig 8.2). Obviously this is a vicious circle – as a building deteriorates it becomes less and less attractive to reuse and there eventually comes a point when it goes beyond economic repair and is abandoned to the elements. As fig 8.1 showed, this point has been reached in more cases than not.



The soundness of the roof is the key to the survival of any building. Once slates start to slip and fall off, rain penetration cause the floors to rot and eventually collapse. The deterioration of doors and windows also makes unauthorised entry, vandalism and arson more likely.

Roof repairs are particularly problematic due to the difficulty in accessing them, particularly if a building is over two storeys high. Scaffolding and hydraulic lifts are expensive to hire and the short-term costs involved are usually perceived to outweigh the long-term benefits of retaining a sound building, especially one with no obvious reuse.

Not all maintenance tasks need be expensive. Ivy was found to be rampant on many of the disused buildings (particularly windmills), but could be easily be kept in check by the simple expedient of cutting through the root stems. The regular inspection of rainwater goods and the securing of doors and windows are also cost effective.

Owners of Protected Structures need, perhaps, to be made more aware of the effectiveness of routine maintenance and also of the benefits of mothballing a building in order to keep alive the possibility of its future reuse. Such owners should also be made aware that planning permission should be sought for any alterations to Protected Structures. The funding of repairs and maintenance is addressed in section 8.6.

### 8.3 Preservation of machinery

Of the 155 sites surveyed, a mere five (3% of the total) retain intact assemblages of plant, gearing and appliances (i.e. the working items driven by the plant via the gearing):

- Odlum's Mill, Portarlington (005-010)

The machinery in this mill is of later 20<sup>th</sup> century date - electric motors, various power transmission trains and roller mills. Whilst not particularly old, this equipment is of considerable technical interest as the only working grain mill in the entire county.

- Saw mill, Ballyfin Demesne (012-001)

This early 20<sup>th</sup> century mill still contains its oil engine, belt drives and saw bench. The owner is aware of the significance of the mill and it is likely to be conserved at some future date.

- Corn mill, Tonafarna Td (014-002)

This early 19<sup>th</sup> century traditional corn mill contains a later waterwheel, gearing and millstones. It is the only completely intact traditional corn mill in Co Laois, although the water supply has been cut off. Although the site has been secured against unauthorised entry, it appears to have been abandoned by its owner.

- Electricity generator, Castletown Mill (016-014)

This mid 20<sup>th</sup> century hydro turbine and generator have only recently stopped working. Although the water supply still passes through the turbine house, the owners have no immediate plans to restart the equipment.

- Flour mill, Newtown Td (029-020)

This late 18<sup>th</sup>/ early 19<sup>th</sup> century mill retains its water supply, waterwheel, gearing and millstones and is actively curated by its owner. This is the largest and most complete flour mill in the county.

In all the above cases, the equipment is in fair to good condition and housed in buildings which are also in a fair to good state.

Given the small number of surviving sites which are complete, it is all the more remarkable that they exhibit such a range of machinery. Plant is represented by two waterwheels, a turbine, oil engine and an electric motor. Power transmission takes the form of shafts, gears and belting, whilst appliances comprise millstones, roller mills, and a bench saw and electricity generator.

Two sites retain substantial remains of plant and gearing, but the actual appliances (in both cases, millstones) has disappeared or collapsed on to the ground:

- Flour mill, Millbank, Mountrath (017-009)

Although most of this early 19<sup>th</sup> century mill has been demolished, the owner has retained the waterwheel and gearing, both of which are now exposed to the elements. The millstones are missing (whether by accident or design is uncertain).

- Corn mill, Ballyroan Td (024-002)

This 19<sup>th</sup> century mill retains its waterwheel in situ. The gearing and some of the machinery also survives but has largely collapsed and is no longer in its original position.

In both these cases, the buildings are incomplete and in poor condition. The equipment is in fair to poor condition and actively deteriorating because of the lack of protection previously afforded by the buildings.

One site, Grenan Corn Mill Td, Attanagh (035-008) contains most of its power transmission gearing (albeit in a collapsed state), but only fragments of its original plant and machinery. A further 11 sites contain vestiges of plant or gearing or machinery (but not all three).

In all the above instances excepting Odlum's Mill, the machinery is no longer used. As with mill buildings, it is therefore vulnerable to deterioration through lack of maintenance and to removal by scrapping or theft.

## 8.4 Conservation of documents

The vast majority of mills etc no longer retain any primary documents. In only two instances did owners retain material relating to their mill's history. At Ballyroan Mill (024-002), several photographs taken in 1950 show the mill before it was reduced from six to two storeys (fig 8.3). At Stradbally Maltings (019-001), original architectural drawings exist for many of the buildings. These are invaluable in clarifying the site's chronological development. In both cases, these documents are vulnerable to loss should the sites change ownership.



Fig 8.3 *Left:* Ballyroan Mill in 1950  
(*courtesy John Corcoran*).

*Above:* The mill in 2005.

## 8.5 Planning issues

Although the majority of mills in Co Laois are ruinous overgrown shells, impractical to preserve or adaptively reuse, the fieldwork carried out for this project has at least enabled their preservation by record, if only in form of basic descriptions and photographs.

The statutory protection of buildings and structures of heritage significance has already been addressed in chapter 7. It cannot be emphasised too strongly, however, that these legal measures are but a means to an end, not an end in themselves. Essentially they are planning tools – enforceable legal mechanisms to facilitate the retention of a site's special character should it ever be redeveloped. Their effectiveness in any particular case is, however, dependent on the precise planning conditions imposed by the planners, the willingness of the developer to accede to them, and the energy with which the planners enforce them. These issues are, of course, germane to all Protected Structures, not just listed mills.

### Planning applications

Ideally, *before* a developer submits a proposal for a Protected Structure to the planners, he or she should take due regard of its heritage status and seek guidance regarding what can and cannot be

done at a listed site. Extremely useful in this regard is a recent publication by the Department of the Environment, Heritage and Local Government entitled *Architectural Heritage Protection: Guidelines for Planning Authorities* (Dublin, 2004). Much misunderstanding could be avoided if developers were as familiar with this document as the planners.

*Irishtown Maltings, Mountmellick (008-032)*

A recent planning application for the redevelopment of Irishtown Maltings highlights some of the issues relating to an industrial site's reuse. The application was submitted in 2004 to redevelop the site for housing (planning reference 04/860). This was prior to the site being designed a Protected Structure in the Co Laois Draft Development Plan of February 2005.

The scheme entailed demolition of several structurally unsound 19<sup>th</sup> century buildings which were not considered by the developer to be economically viable to refurbish. The malt house was to be converted to apartments, new houses built and the brick chimney retained.

Permission for this scheme was granted by Laois CC but appealed by a third party on the grounds that it would interfere with the setting and operation of an adjoining property. The case went to An Bord Pleanála. In a report dated 2<sup>nd</sup> March 2005, the inspector appointed by the Board dismissed the appeal and found in favour of the developer. A number of conditions were attached to the granting of permission, two of which are quoted in full here:

1. Prior to the commencement of any demolition works, the developer shall carry out a full written and photographic survey of all buildings and structures to be demolished on the site, which shall be submitted for the written agreement of the Planning Authority. Provision shall be made to retrieve all items of industrial, architectural and historical heritage existing within these buildings.

*Reason:* In the interests of preserving, by record, the industrial and architectural heritage of the site.

2. The developer shall facilitate the Planning Authority in preserving and recording or otherwise protecting archaeological materials or features which may exist within the site. In this regard, the developer shall –
  - notify the Planning Authority in writing at least four weeks prior to the commencement of any site operation (including hydrological and geo-technical investigations) relating to the proposed development, and
  - employ a suitably-qualified archaeologist prior to the commencement of development to carry out a detailed archaeological assessment of the site.
3. Prior to the commencement of development, a report containing the results of the assessment shall be submitted to the Planning Authority. Arising from this assessment, the developer shall agree with the Planning Authority details regarding any further archaeological requirements (including, if necessary, archaeological excavation) prior to commencement of construction works. The archaeologist shall monitor all site development works.
4. In default of agreement on any of these requirements, the matter shall be determined by An Bord Pleanála.

*Reason:* In order to conserve the archaeological heritage of the site and to secure the preservation of any remains which may exist within the site.

Although the inspector favoured the development, the Board refused permission on the grounds that the extent of the changes required to bring it to an acceptable standard could not be appropriately addressed by way of a condition imposed on the existing application. Rather, a new application would be necessary for the revised scheme (determination ref. PL 11.209358).



Whilst these conditions go some way to preserving this site through recording and salvaging, it stops short of stipulating the need for measured drawings of the buildings to be demolished. Moreover, no recordings of the buildings to be preserved are required.

It should also be noted that a qualified archaeologist is required to carry out the archaeological assessment, but no specialist is stipulated for the recording of the upstanding buildings. The latter are arguably more important than the below-ground remains in this instance.

#### *Maryborough Maltings, Portlaoise (013-036)*

Planning permission was recently granted for the redevelopment of this site for retailing and warehousing (planning reference 04/1029); a separate application for a residential development and medical centre has yet to be determined by Laois CC (04/1028).

A detailed survey was undertaken by archaeologists and submitted as part of this application (fig 8.4). Their recommendations subsequently formed part of the conditions imposed by Laois CC on the granting of permission. These included the conservation and reuse of materials from the site (e.g. kiln tiles). As a consequence, items of machinery have been salvaged and most will be displayed at the redeveloped site; several items have gone to museums. Detailed measured drawings (plans, elevations and cross-sections) were also prepared.

One unforeseen issue arose during the demolition of some of the buildings (for which permission had been granted). The consultant archaeologist appointed to monitor the development noted damage to adjoining buildings as a consequence of this work. A conservation engineer was commissioned to investigate the matter. In his report of 27 July 2005, he noted:

“It would appear that as no demolition method statement nor procedure was observed as would be appropriate to a conservation brief, the buildings experienced severe damage during the course of the demolition, with minimum protection being provided to the remaining identified conservation components. As a result these are now in a fairly poor and, in some cases, in a possibly unsound condition and will need special care and attention if their conservation is to be assured.”

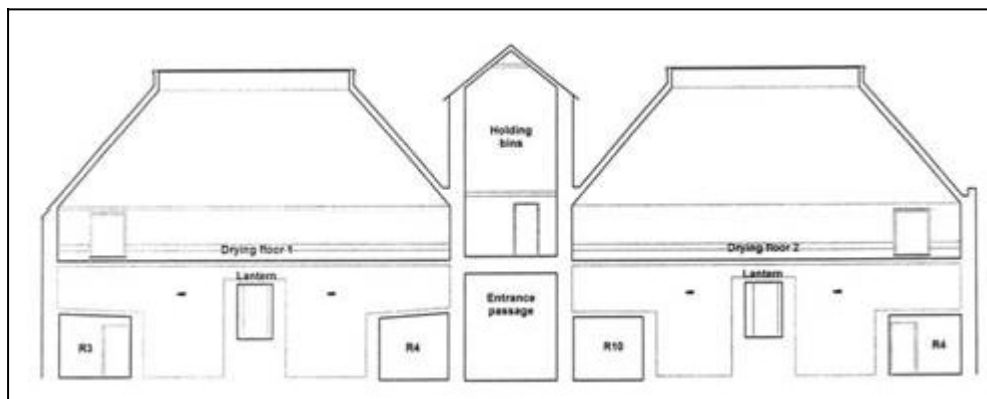


Fig 8.4 Longitudinal section through malt kilns at Maryborough Maltings (*Doddy and O'Donnell, 2004*).

### **Model planning conditions**

In theory, a report on a site's history and upstanding remains should be commissioned by the developer at the outset of a scheme. These data are essential if the relative heritage merits of its upstanding and buried components are to be rationally assessed.

The historical research should include details of when the site was built, by whom and for what purpose, and how it subsequently evolved up to the present day. Field survey should include external and internal descriptions of all buildings and structures (including present condition and use), supplemented with colour photographs and measured drawings where appropriate.

Features of special merit should be regarded as ‘critical’ features, the loss of which would outweigh the benefit gained by their removal. Those of lesser merit may be deemed ‘tradable’ in that their loss would be outweighed by the benefits of redevelopment.

The impact of the scheme upon significant features should also be assessed. Where there is a detrimental impact, particularly on the critical ones, appropriate mitigation measures should be set out or the scheme changed so that the impact will be lessened.

Although this scenario has shown elsewhere to be beneficial both to the developer and the retention of a site’s character, it is usually the exception rather than the norm. The involvement of experienced conservation architects at an early stage in such schemes is also exceptional.

In many submitted planning applications, historical research is sometimes rudimentary and descriptions, photographs and measured drawings of the existing buildings and structures lack detail or are non-existent. Where this is the case, planning permission is usually granted subject to further research and recording by a specialist consultant. Understandably, any changes to the scheme subsequently recommended by that consultant to mitigate detrimental impacts generally meet with a cool reception by the developer.

The onus is on the planning authority to take due cognisance of a site’s heritage worth when considering the development gain arising from its redevelopment. In the case of planning applications for Recorded Monuments, the planning authority is duty-bound to inform the Department of Environment, Heritage and Local Government (DEHLG) of such applications. This generally results in a stipulation that the developer engages the services of a qualified archaeologist to evaluate the site’s archaeological potential and, if necessary, carry out an archaeological excavation and/or monitoring of site works. In practice, the focus is usually on buried remains, although whether these are any more ‘archaeological’ than upstanding ones is a moot point.

In the case of Protected Structures, advice can be sought from DEHLG, but the local authority is the final arbiter. The input of a Conservation Officer would obviously be beneficial to the decision-making process.

Any planning conditions should be clearly and unambiguously set out so that they cannot be misinterpreted by a developer, whether by accident or design.

### **Monitoring and enforcement**

The imposition of planning conditions carries the presumption that they will be enforced by the planners if the developer does not act on them. Their monitoring is obviously dependent on how much time the planners can afford to devote to each of the many developments simultaneously taking place throughout Laois, even those involving Protected Structures.

In the case of Protected Structures and Recorded Monuments which are not the subject of planning applications, regular monitoring by planners is infrequent (if at all) due to lack of resources. As owners of such sites may not be fully aware of what they can and cannot do by way of permitted works, unauthorised works could go unnoticed. Moreover, because of the rudimentary nature of the records for existing Protected Structures (especially interiors), it may not be possible to take enforcement action against unsympathetic works.

These issues arise, of course, because of a lack of resources for protecting the built heritage. Although Laois CC has a full-time Heritage Officer, it has no Conservation Officer to deal with planning issues on Protected Structures, give advice to owners, and administer conservation grants. This, of course, is also an issue for many other local authorities, and one which needs addressing urgently.

## **8.6 Funding mill conservation**

A range of grants are available for conservation works to structures and buildings from a variety of sources.

### **Conservation Grants**

This scheme is funded by the Department of the Environment and has been operative since 1999. It is administered by local authorities and applies only to Protected Structures not in public ownership. Its objective is to encourage repairs to listed buildings which use appropriate materials and techniques and which do not alter its significant character. Qualifying works include those necessary to make it weather- and damp-proof and structurally secure. Repairs to machinery which are an integral part of the structure are also eligible, as are professional fees. However, routine maintenance, alterations and improvements are ineligible, as are works which have tax relief under the Taxes Consolidation Act, 1997.

Each year, Laois CC seeks applications from owners of Protected Structures for financial assistance. The applications are prioritised on the basis of the site's heritage significance, condition, urgency of the works, costs, other public funding available, and the owner's own resources. If successful, the money must be spent within the year in which it is granted as it cannot be carried over to the next year. Grants of up to 50% of approved costs are possible, subject to a maximum of €13,000. In exceptional circumstances, 75% grant aid can be made up to a limit of €25,000.

Not unexpectedly, the amount of grant sought by applicants invariably exceeds the Council's available budget. The amounts actually granted are therefore a relatively small proportion of the total cost of the work. To date, no owners of mill sites have applied for a conservation grant.

### **Buildings at Risk grants**

In 1998, the Heritage Council established a register of buildings which were vulnerable to loss and which required funding for essential repairs. Coupled with this register is a grants scheme, the objective of which is to assist an owner to carry out repairs necessary to ensure that a building was weatherproofed. Although buildings of heritage significance are prioritised, it is not necessary for them to be Protected Structures to avail of such grants.

Eligible items include roofs, chimneys, rainwater goods, walls and windows. It is not designed to fund complete restoration. Its purpose is merely to facilitate holding repairs which will maintain the building's structural integrity and prevent deterioration which will lead to more costly repairs at a later date.

From 2001 to 2005 inclusive, a total of nine awards were made, totalling €67,500.<sup>10</sup> With the exception of the Spire at Portarlinton, all went to the owners of houses, mainly for roof repairs. The fact that no grants have been given to any industrial site in Co Laois reflects the extremely low number of applications under this category of building type rather than any inherent bias in the grant eligibility and decision procedures. Greater awareness of this scheme amongst owners of significant industrial sites may rectify this situation.

### **Heritage Buildings**

Under Section 482 of the Taxes Consolidation Act 1997, tax relief is available to the owner or occupier of an Approved Building in respect of expenditure on its repair, maintenance or restoration. Such a building is defined as one of "significant historical, horticultural, architectural, aesthetic or scientific interest". It must also be accessible to the public for at least

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<sup>10</sup> Heritage Council website, <http://www.heritagecouncil.ie/grants/index.html>

60 days per year. Whether a building meets these criteria is determined by the Department of the Environment and Local Government.

No tax relief is allowable on expenditure which is otherwise tax exempt and on amounts recoverable from other sources (e.g. conservation grants).

Although owners of industrial heritage sites have availed of this grant in other counties, none has done so to date in Co Laois.

## **8.7 Raising awareness of the milling heritage**

The retention of significant examples of mills of heritage merit ultimately rests on the willingness of their owners to conserve them, however passively.

The general perception is that statutory protection is a handicap, inhibiting development and making maintenance and redevelopment more expensive due to the need to use more expensive materials etc. Whilst the legislation is designed to manage rather than inhibit development, it cannot be disputed that the current level of grant aid for conservation work to Protected Structures is wholly inappropriate to the situation.

There is also a widespread belief amongst owners that they will be prosecuted should their listed building be allowed to become derelict. Although a local authority has powers to force an owner to carry out holding repairs to an endangered listed building, such action is inappropriate in most cases, particularly where the owner has no resources. Moreover, such action is unlikely to be sanctioned by locally-elected politicians except in very special cases.

Whilst many people encountered during the course of this survey had childhood memories of working mills, their owners often saw them also as liabilities, particularly where ruinous. Many doubtless had their roofs removed to avoid paying rates and at least one - Fruitlawn Woollen Factory (023-036) – was demolished for this very reason. Several mills were deliberately reduced in height by their owners to reduce the risk of slates and stones falling on passers-by and livestock (e.g. 024-002 and 029-007).

Whilst the leaflet on Protected Structures prepared by the Heritage Council (2002; also available on the web) sets out an owner's responsibilities, it obviously cannot deal with specific sites. In order to foster a greater appreciation by owners, it is recommended that they be informed of the significance of their particular mills. This may encourage them to more actively conserve this important facet of the county's industrial heritage.

## **8.8 Recommendations**

On the basis of the above discussion on the issues arising from this survey, the following recommendations are made for the recording and preservation of significant items of the county's milling heritage.

### **Conservation Plan**

1. A conservation plan should be prepared for Tonafarna Corn Mill (014-002) in order to better secure its future. This mill has recently changed ownership and may be vulnerable to alteration or demolition as a result. It is particularly important as it is now the only surviving traditional cornmill in Co Laois, and one of only two intact grain mills.

The plan should include a review of the site's historical development and a description of the mill, kiln, waterworks, plant and machinery. On the basis of these findings, a statement of its cultural significance should be prepared. Threats to this significance should be highlighted and policies presented which will mitigate these threats and retain significance.



## **Recording processes**

1. The recording of the production processes at the following two sites is recommended as they are the only working mill-related sites still at work in Co Laois:

- Odlum's Mill, Portarlington (005-010)

The mid 20<sup>th</sup> century mill and two adjoining silos at the south-east end of the town still operate as a commercial flour mill.

- Stradbally Maltings (019-001)

On the south side of the road, three late 19<sup>th</sup>/ early 20<sup>th</sup> century kilns and two silos are still used to dry and store grain, albeit no longer for malting. On the north side of the road, a former house has been refurbished as part of a larger housing redevelopment.

## **Recording machinery**

1. Given the rarity of surviving machinery in Co Laois, it is recommended that what exists be fully recorded by way of detailed surveys, photography and measured drawings as appropriate. Priority should be given to the machinery at four mills which have been abandoned and which are therefore at most risk of loss:

- Corn mill, Tonafarna Td (014-002).

This mill is no longer maintained and, being in an isolated location, could be prone to vandalism. It contains an interesting variant of the great spurwheel configuration between its waterwheel and stones.

- Flour mill, Millbank, Mountrath (017-009)

Because this equipment is open to the elements, it is actively deteriorating. It is also vulnerable to vandalism and theft because of the absence of the owner and unsecured access. It is a particularly good example of an early/mid 19<sup>th</sup> century all-metal waterwheel and great spurwheel power transmission.

- Corn mill, Ballyroan Td (024-002).

At the time of survey, the interior of this mill could not be accessed due to dense overgrowth. The wheel survives and much of the machinery, albeit in a collapsed state. As it would be impractical to restore the machinery in situ (because of the poor state of the building), it should all be recorded before it disappears.

- Corn mill, Grenan Td, Attanagh (035-008).

As with Ballyroan, the power transmission gearing survives in a collapsed state in a derelict building which is easily accessible off a public road. It is therefore vulnerable to loss.

2. The machinery at the following sites also merits recording, but there is less urgency as the enveloping buildings are in a reasonable state of repair.

- Odlum's Mill, Portarlington (005-010).
- Saw mill, Ballyfin Demesne (012-001).
- Electricity generator, Castletown Mill (016-014).
- Flour mill, Newtown Td (029-020).

## **Recording documents**

1. The County Archivist should endeavour to make copies of primary documents retained by mill owners. Documents of historical interest are known to exist at Ballyroan Mill (024-002) and Stradbally Maltings (019-001).

## **Planning issues**

1. The following data should be requested by Laois CC as part of any planning application relating to a Protected Structure, especially mills:
  - Historical review (fully referenced).
  - Description of upstanding buildings; also waterworks (mill ponds and races), plant and machinery where these exist. The likelihood of buried remains should also be assessed. This section should be accompanied by photographs and, where appropriate, scale drawings (elevations, plans, cross-sections).
  - Heritage evaluation (according to NIAH criteria).
  - Development proposals and impact, especially on features of critical features.
  - Mitigation measures. Full details of any additional recording work should be noted. If demolition is proposed, a method statement should be prepared which will ensure no collateral damage. The on- or off-site preservation of significant items of plant and machinery, where they exist, should also be addressed.
2. The appointment of a Conservation Officer should be given urgent consideration by Laois CC. This measure is also advocated in the Laois Heritage Plan 2002–2006.

## **Raising public awareness**

1. It is recommended that Laois CC prepares a web page detailing the range of grants available for conservation work. Printed copies should be distributed to owners of protected sites.
2. Resources permitting, owners of Protected mills should be circulated with the relevant site report (or extracts thereof) contained in part 2 of this survey in order to inform of the heritage value of their particular sites.
3. Again subject to the availability of resources, a web page should be prepared which outlines the routine maintenance of Protected structures and buildings. Copies should be printed off and distributed to site owners.

## 9. CONCLUSIONS

Co Laois boasts a diverse milling heritage which directly reflects its agricultural character. Although much of this industry focused on the major centres of population at Portlaoise, Mountmellick and Portarlinton, mills were at work in all parts of the county.

Corn and flour mills predominate, followed by breweries and maltings. There was also a significant textile industry in the early and mid 1800s which was revitalised for a time in the mid 1900s. Saw mills also reflect the formerly wooded character of some areas during the later 19<sup>th</sup> century. Several novel, but short-lived industrial enterprises were also established, notably the sugar beet factory at Mountmellick in the mid 1800s and carpet factory at Abbeyleix in the early 1900s.

Whilst this milling heritage is documented in OS maps and valuation books, it is unfortunate that so little tangible evidence now survives in the form of upstanding remains. Many sites have long disappeared or survive as unstable overgrown walls. Given that over two hundred mill-related structures and buildings once existed, it is surprising to find that only a handful are in a reasonably complete state.

Some sites of special heritage significance are safeguarded against unsympathetic redevelopment and demolition because they are Protected Structures or Recorded Monuments. Some new discoveries arising from this study have also been proposed for protection.

The long-term survival of significant examples of the county's industrial heritage is ultimately dependent on the public's understanding and appreciation of what still remains, coupled with sufficient resources being made available to the County Council to manage their future preservation or redevelopment.

This in-depth study of the county's milling heritage has been a useful stock-taking exercise. Apart from forming a basic record of the county's mills, it has also served to highlight the urgency of proactive measures to conserve those few significant examples which remain.

# APPENDIX 1: MILL RECORDING FORM

<b>Co Laois Mill Survey</b>				<b>LAIAR no:</b>		<b>005-010</b>			
Surveyor: F.W. Hamond			Survey date: 28/7/2005						
Buildings?	Y/ N/ ? N-A	Waterworks?	Y/ N/ ? N-A	Plant?	Y/ N/ ? N-A	Mchy?	Y/ N/ ? N/A		
	Buildings	Ancillary Blds	Waterworks	Plant	Machinery				
Completeness	Complete	Complete	N/A	Complete	Complete				
Condition	Good	Good		Good	Good				
Access On north side of junction of Station and Canal roads.									
Situation Flat ground on southern outskirts of Portarlington, beside canal and near railway.									
Owner/agent (name, address, tel) Messrs Odlums Ltd									
Summary description Remains of an 1876 steam-powered flour mill incorporated in buildings behind a working flour mill of 1978. Site also encompasses ancillary 19th century buildings and also mid/late 20th century buildings and structures associated with grain intake, screening and storage, and flour bulk out-loading.									
Components:	1	Grain mill (steam)			Heritage merit	High	Medium	Low	
	2	Grain mill (electric)				Historical	Y		
	3	Grain silo (21no)				Architecture	Y		
	4	Grain silo (8 no)				Technical	Y		
	5	Railway siding				Landscape	Y		
	6	Mill related building							
Protection		Record only		RMP		RPS			
Photographs:	Reel	Frame		Reel	Frame				
	148	32	View of site from north-east.	28	28	View of site from north-west.			
		31	View of site from south-east.	27	27	Buildings on main road, from west.			
		30	1969 flour mill and silos, from south-east.	26	26	View of site from south-west.			
		29	View of site from south-west.	25	25	1969 flour mill, from south-west.			
Threats None				Actions					

Reverse side of form describes buildings etc in more detail.



## APPENDIX 2: HERITAGE EVALUATIONS

### 2.1:: Local rating

LAIAR no	Comments
007-002	
007-003	
007-007	
008-011	Already in RPS (LA 703).
008-068	
008-081	
012-019	Already in RPS (LA 586).
013-043	
013-054	
014-017	Already in RPS (LA 598).
017-005	
018-007	Already in RPS (LA 619).
026-022	
028-011	
029-027	
032-024	
037-012	

### 2.2: Regional rating

LAIAR no	Action	Comments
003-017	RMP	Already in RPS (LA 540).
008-032		Already in RPS (LA 705).
008-066	RPS	
009-020	RMP	Already in RPS (LA 574).
009-026		Already in RMP.
011-012		Already in RPS (LA 579).
013-026		Already in RPS (LA 184).
014-002	RPS	
014-037	RMP	Already in RPS (LA 597).
014-039		Already in RMP.
016-014		Already in RPS (LA 328).
017-009		Already in RPS (LA 740).
017-056		Already in RMP.
018-015	RPS	
018-017		Already in RPS (LA 356).
018-020		Already in RMP.
019-016	RPS	
019-019	RMP	
023-021	RPS	
023-034		Already in RPS (LA 648).
024-001	RPS	
024-002	RPS	

025-026	RPS	
026-003	RMP	Already in RPS (LA 481).
028-004		Already in RPS (LA 336 and LA 492)
028-017	RMP	
029-006	RPS	
029-020		Already in RPS (LA 500).
032-018	RPS	
032-023	RPS	
035-008	RPS	

## 2.3: National rating

LAIAR no	Action	Comments
005-010	RPS	
012-001		Already in RPS (LA 586).
014-012		Already in RPS (LA 236).
019-001		Already in RPS (LA 709).

